

SDP-505ES

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model
E Model*



NOTE: WOODEN SIDE PLATES ARE NOT EQUIPPED.

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm loads, both channels driven, from 40–20,000 Hz; rated 14 watts per channel minimum RMS power, with no more than 0.2% total harmonic distortion from 250 milliwatts to rated output.

Dynamic range 90 dB, A network
Frequency response
SURROUND OUT 20 Hz–20 kHz ± 3 dB
CENTER OUT 10 Hz–100 kHz ± 3 dB

Surround power amplifier section
Power output 16 W+16 W (0.05%, 1 kHz)

— Continued on page 2 —

OTHER SPECIFICATIONS

System

Code format 16 bits linear
Sampling frequency 44.1 kHz

Digital surround section

Delay time 0–90 msec, 0.1 msec steps
LR independent
Input level 250 mV (LINE IN)
Input impedance 50 kohms (LINE IN)
Output level FRONT OUT 250 mV
SURROUND OUT 250 mV
CENTER OUT 250 mV (LOW)
1.7 V (HIGH)

Maximum output level
SURROUND OUT 3 V
CENTER OUT 7 V

Harmonic distortion
Less than 0.008%, 1 kHz, 3V
during presence delay

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

DIGITAL SURROUND PROCESSOR

SONY®



SDP-505ES

General

Power requirements: US, Canadian models: 120 V ac, 60 Hz
AEP model: 220 V ac, 50/60 Hz
UK model: 240 V ac, 50 Hz
E model: 120, 220 or 240 V ac adjustable, 50/60 Hz (for the model for other countries)

Power consumption: US, Canadian: 100W
AEP, UK, E model: 60 W

Dimensions: 430 x 86 x 350 mm (w/h/d)
(17 x 3-3/8 x 13-7/8 inches)
including projecting parts and controls

Weight: US, Canadian, UK, AEP models: 7.7 kg (17 lbs)
E model; 7.6 kg (16 lbs 13 oz)
(for the model for other countries)

Design and specifications subject to change without notice.

FEATURES

The SDP-505ES digital surround processor provides an atmosphere similar to that of concert halls and movie theaters on playback of program sources.

DPS (Digital Presence Synthesizer) IC

Using the newly developed DPS IC, the input signals are digitally processed, causing little deterioration in signal quality.

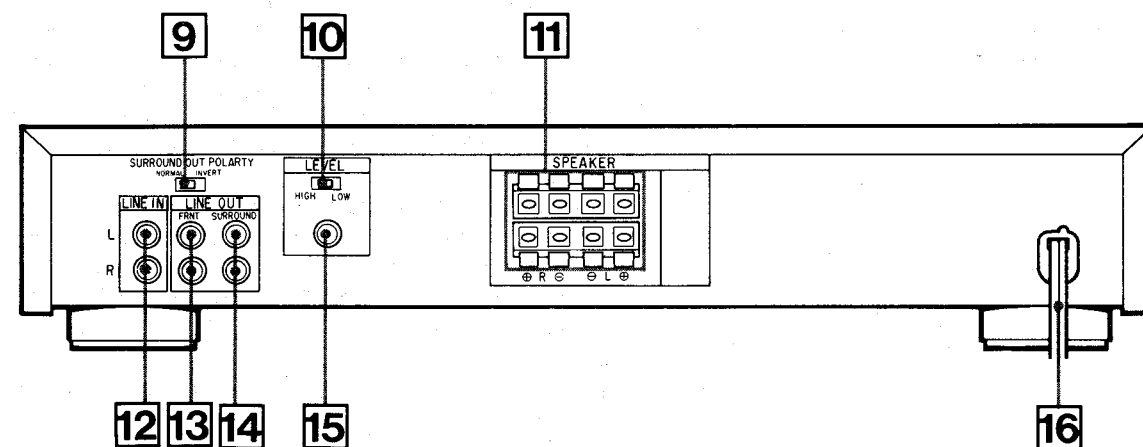
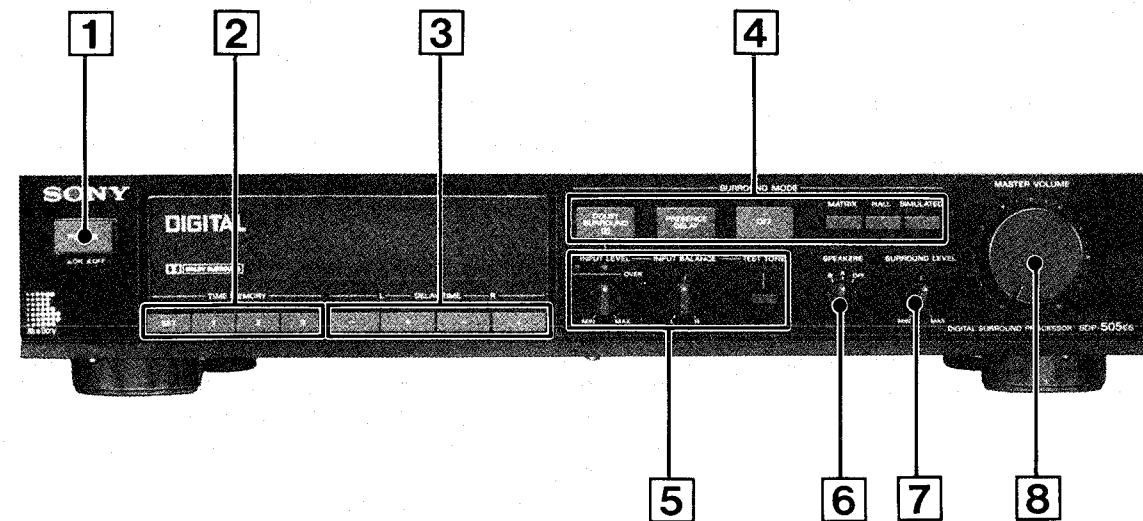
Presence delay

By delaying the sound from the presence speakers, an expanded feeling, such as in a concert hall, can be obtained. The delay time is adjustable, left and right channel independently, within the range of 0–90 msec.

Dolby* surround

The Dolby surround mode is provided for reproduction of program sources with the  mark. The delay signals are digitally processed as in movie theaters, resulting in clear and high quality sound. The surround level can be adjusted in reference to a test tone from the speakers for Dolby surround to work at its best.

* "Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation. The noise reduction system is manufactured under license from Dolby Laboratories Licensing Corporation.



FUNCTION OF CONTROLS

Front panel

1 POWER Switch

2 TIME MEMORY buttons

These buttons will not operate when the SURROUND MODE button is set to OFF.

SET: To memorize delay time, press this button and while the MEMORY indicator is lit, press the appropriate number button.

Number buttons: To memorize delay time, press an appropriate number button after pressing the SET button. To set the memorized delay time, press the appropriate number button.

3 DELAY TIME button

Press to adjust the delay time of the left and right channel. The delay time will change in 0.1 msec steps. To change the delay time continuously, keep the button pressed lightly. To change the delay time quickly, keep the button depressed.

4 SURROUND MODE buttons

DOLBY SURROUND button

Depress to play back using Dolby surround.

PRESENCE DELAY button

Depress to delay the sound emitted from the front presence speakers.

OFF button

Depress this button when surround effect is not needed. The OFF indicator will light up.

MATRIX button

Depress to enhance the MATRIX surround effect.

HALL button

Depress to enhance the HALL surround effect.

SIMULATED button

Depress to give the surround effect to monaural sound sources.

5 Dolby surround controls and buttons

These controls and buttons can be used when the DOLBY SURROUND button is depressed.

INPUT LEVEL control and indicators

Turn this control gradually towards the right so that the OVER indicator does not light up when there is high level input. There is no need to adjust this control when the TEST TONE button is pressed and pink noise is emitted from the speakers.

INPUT BALANCE control

Adjusts the balance of the left and right channel input.

TEST TONE button and indicator

Press to adjust the Dolby surround level. The indicator lights up. Pink noise will be emitted from the main and surround speakers. The balance of the main and surround speaker system can be adjusted by the SURROUND LEVEL control.

6 SPEAKERS select switch

Selects the speaker system to be connected to the SPEAKER terminals of the SDP-505ES; A, B or OFF.

7 SURROUND LEVEL switch

Adjusts the output level of the surround speaker system.

8 MASTER VOLUME control

Controls the output level of the front, surround and center speaker systems.

Rear panel

9 SURROUND OUT POLARITY switch

Normally, set this switch to NORMAL. When sound from the surround speaker system seems out of phase, set this switch to INVERT.

10 LEVEL switch

Normally, set this switch to HIGH. When the output level of the CENTER OUT output seems high, set this switch to LOW.

11 SPEAKER A/B terminals

Connect surround speakers (impedance: 6-16 ohms) here when using the power amplifier of the SDP-505ES.

12 LINE IN jacks

Connect to the tape output jacks of an amplifier, audio/video selector or equalizer.

13 LINE OUT FRONT jacks

Connect to the tape input jacks of the amplifier.

14 LINE OUT SURROUND jacks

To enjoy a high-quality surround effect, connect the tape input jacks of another amplifier to these jacks.

15 CENTER OUT jack

Connect an optional super woofer for powerful reproduction of lower frequencies

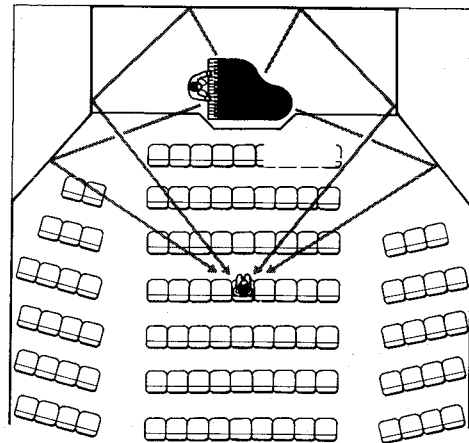
16 Power cord

Voltage selector (only for the model for other countries)
Turn to the appropriate voltage, 120, 220 or 240 Vac.

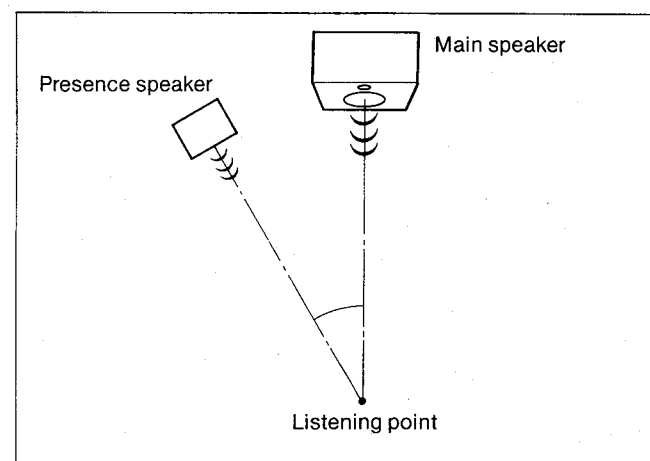
COMMENTS ON EACH SURROUND MODE

PRESENCE DELAY

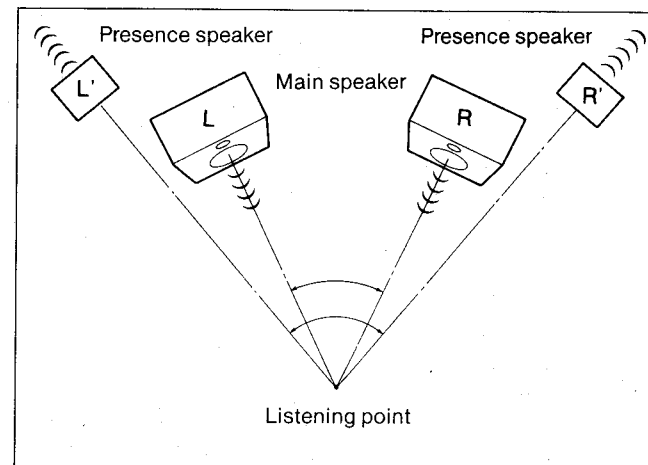
Sound in concert halls has more presence than that heard in a listening room. This is caused by sound being reflected by the side walls and ceiling of the concert hall—especially initially reflected sound; sound which is reflected within approx. 10 msec of the direct sound.



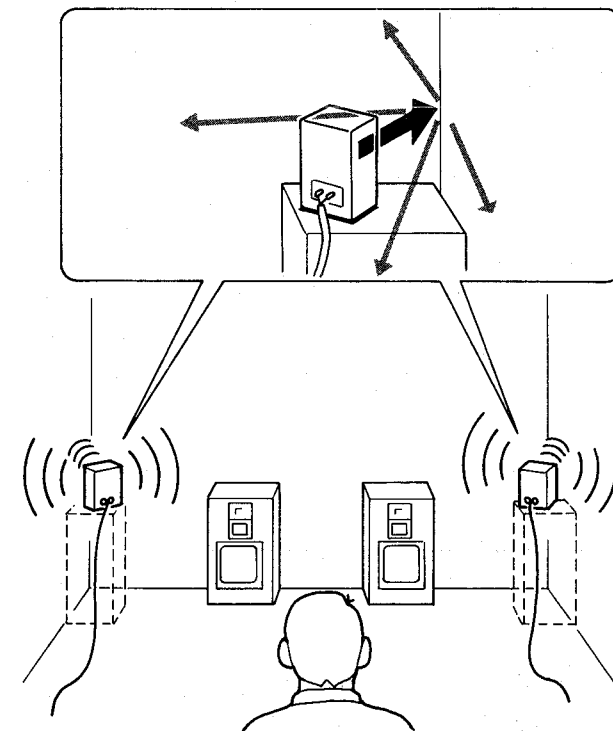
When sound with a certain delay is heard from a different direction after a direct sound is heard, a sense of richness and expansiveness is felt by the listener. This is why sound in concert halls has more presence. The same method is employed by the SDP-505ES presence delay mode. When a speaker for reflected sound (the presence speaker) is placed near a speaker for direct sound (the main speaker), sound expansion can be realized even with monaural sound sources.



With a two-channel stereo system, the presence delay mode becomes more effective when the presence speakers are placed facing the wall, to get sound reflection from many directions. Direct sound comes from the main speakers.



The illustration below is an installation example of a two channel system.



DOLBY SURROUND

Many recent movies are made with Dolby surround. Sound of Dolby surround sources are recorded so that sound seems to move with the screen. For example, when an automobile moves from the left side of the screen to the right, the sound of the automobile will also move from the left to the right. Dolby surround program sources (such as video disks and video tapes) are marked with the  **DOLBY SURROUND** mark.

MATRIX SURROUND

Matrix surround gives you the feeling of being one of the musicians in an orchestra when listening to an audio source and of being one of the players in the field when listening to a sports broadcast in the stereo mode.

HALL SURROUND

Hall surround gives you the feeling of being one of the audience when listening to an audio source, or being one of the spectators when listening to a baseball game in the stereo mode.

SIMULATED MODE

Monaural sound sources will seem to have the spaciousness of a stereo source in simulated mode.

DELAY TIME ADJUSTMENT

Presence delay

By increasing the delay time, sound expansion is increased. Generally, however, the delay time should not be set lower than 10msec or higher than 50msec, as presence delay will no longer be effective and sound quality could be deteriorated. For example, a delay time of 20 to 30msec is recommended for classical music and 10 to 20msec is recommended for jazz. For best results, the delay time of the left and right speaker system should be slightly different (2msec to 3msec) to obscure the sound image of the presence speaker system.

Dolby surround and others

By applying an appropriate delay on the sound from the surround speaker system, sound from sources such as videos and video disks will be heard naturally from a wider range than that made in 2-channel reproduction. The recommended delay time for Dolby surround is 20 msec, 0 msec for matrix surround, 30 msec for hall surround and 15 msec for simulate surround.

Dolby and other surround modes are most effective when both of the surround speakers are placed in an even distance from the listening point. If this is not possible because of the structure of the listening room, a correction can be made by adjusting the delay time.

The speed at which sound travels varies with temperature (t). The approximate speed (v) can be found by the following formula.

$$v = 331.5 + 0.61t \text{ (m/sec)}$$

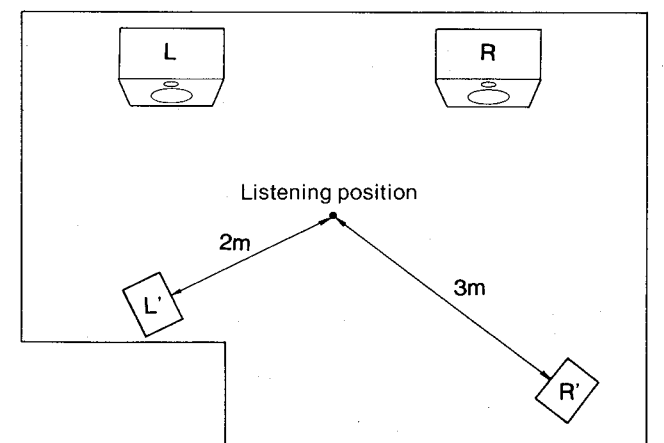
For example, when the temperature is 25°C, sound travels:

$$v = 331.5 + 0.61 \times 25 = 346.8 \text{ (m/sec)}$$

Thus, it takes $1000/346.8 = 2.88$ msec for sound to travel 1m.

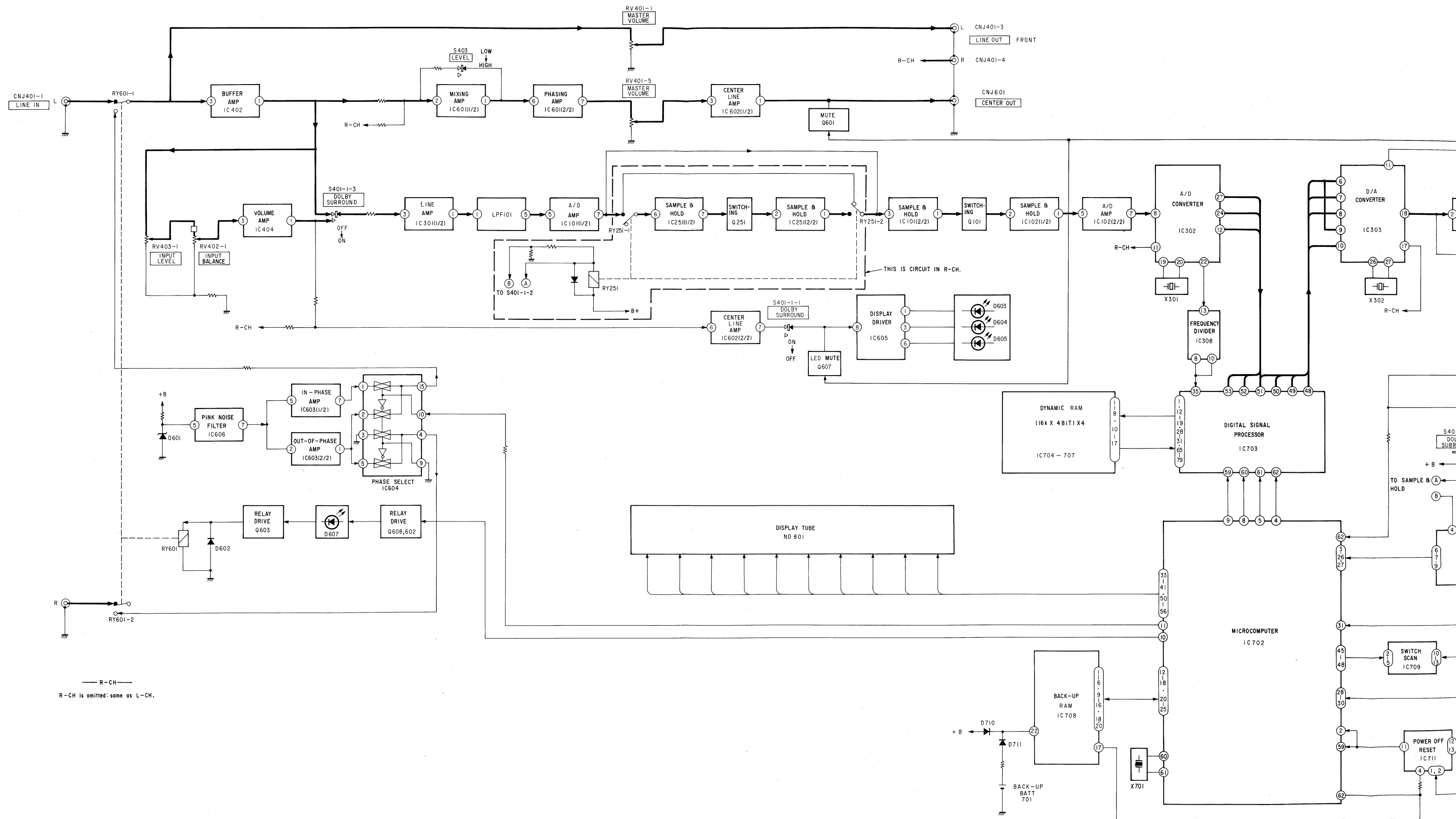
If the two surround speakers cannot be placed an even distance from the listening position, a correction can be made, by increasing the delay time of the speaker nearer to the listening point 2.88 msec per meter, or decreasing the delay time of the speaker further to away from the listening point 2.88 msec per meter.

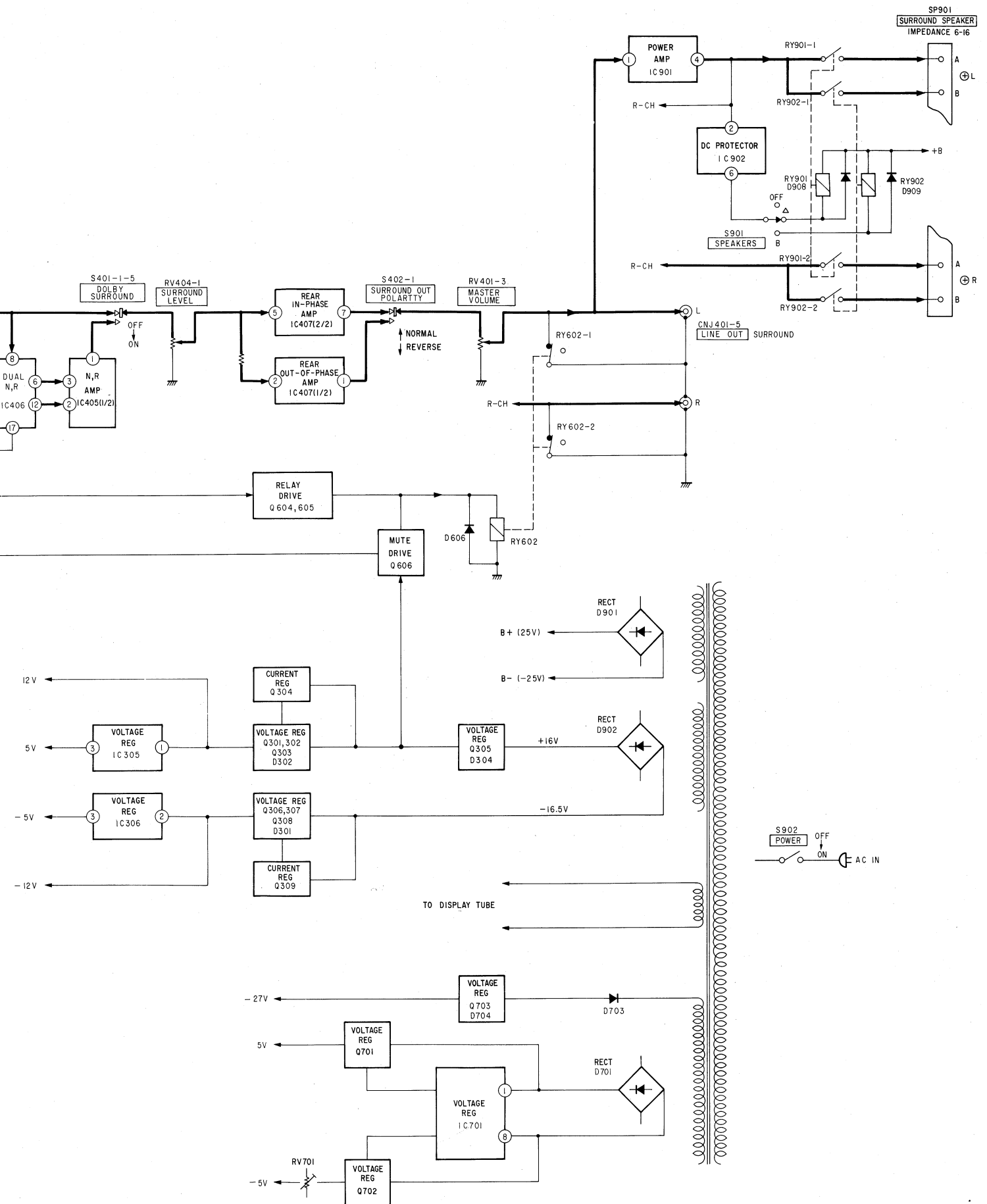
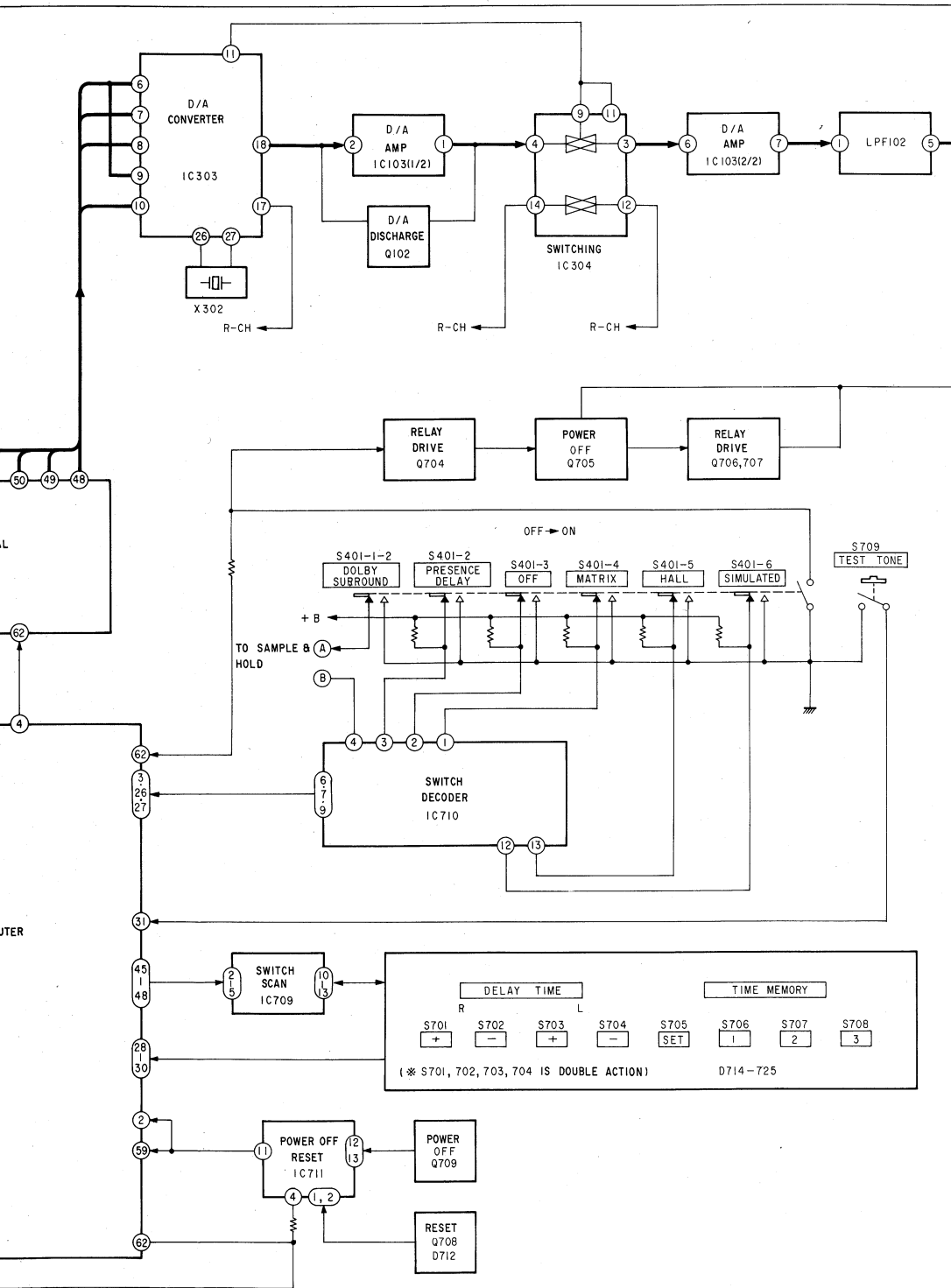
For example, when the position of the surround speakers is as illustrated below, the difference the distance of the surround speakers to the listening point is 1m; thus the delay time of the left channel should be set to 22.9 msec when the right channel is set to 20 msec.

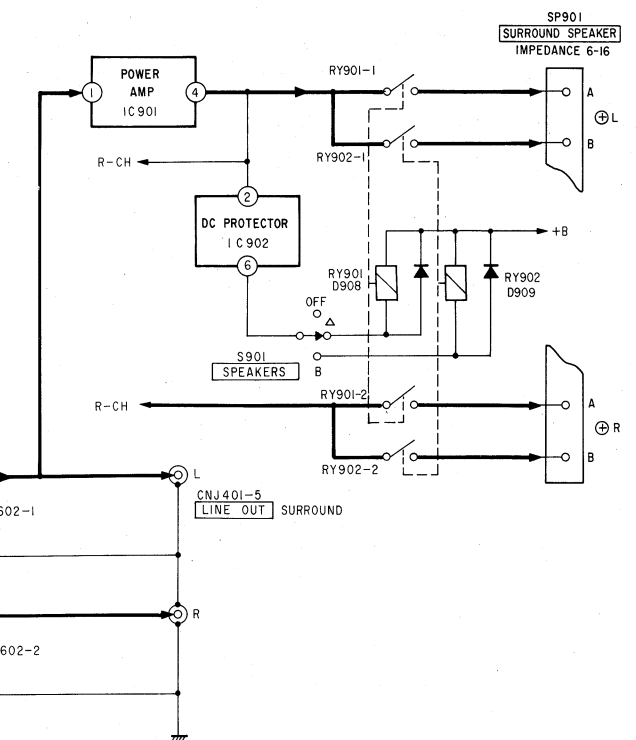
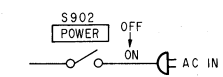
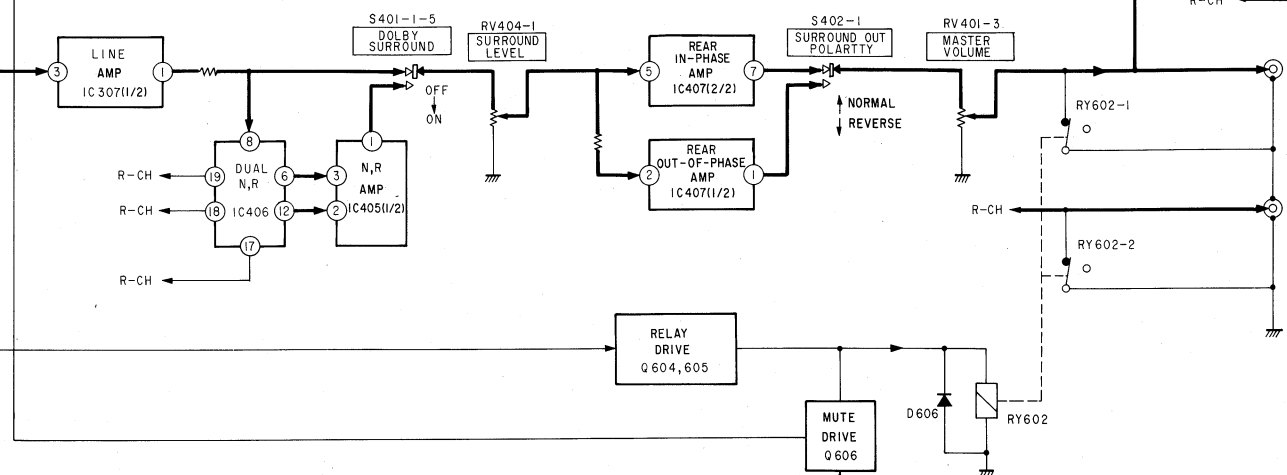


SECTION 1 BLOCK DIAGRAM

1-1. BLOCK DIAGRAM





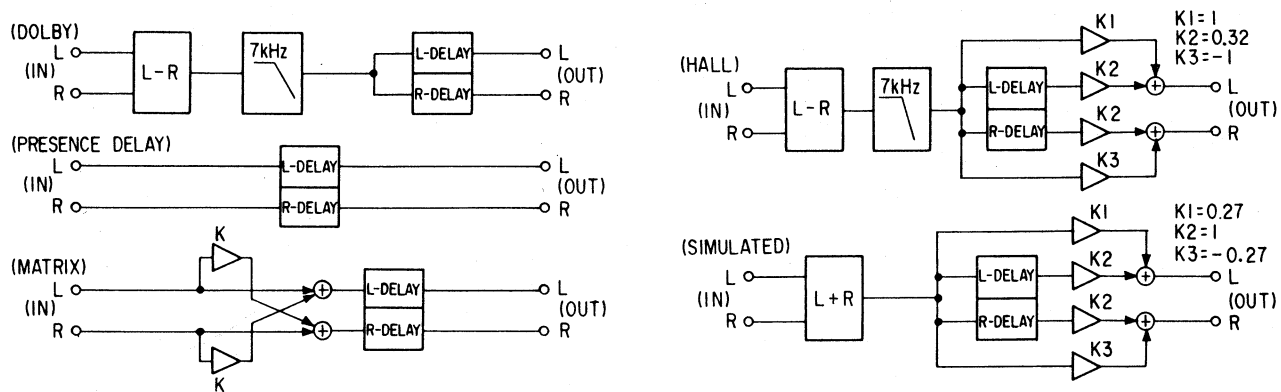


1-2. DESCRIPTION ON DIGITAL PROCESSOR CXD1079Q (IC703)

The control programs to control the digital processor IC CXD1079Q are generated in and transferred from the microcomputer CXP5016H-118S, IC702. Main function of this processor is to convert these analog to digital signals from the A/D converter IC302 to serial/parallel signals and transfers them to the external RMAs IC704 through IC707. This processor, then, reads out these signals after a predetermined delay time, performs matrix processings, filterings and then transfers these processed signals to the D/A converter IC303, CX20017 as shown in Fig. 1.

PIN NR.	NAMING	INS OR OUTS	FUNCTION (S)																																																																																					
1	Do	IN AND OUT	Transmits and receives data from external RAM and latches.																																																																																					
2 TO 5	$\overline{\text{IN}}_0$ TO $\overline{\text{IN}}_3$	OUTS	Transmits strobe signal for the 16-bit parallel inputs from external latch circuits. Low active.																																																																																					
6 TO 9	$\overline{\text{OUT}}_0$ TO $\overline{\text{OUT}}_3$	OUTS	Transmits strobe signal for the 16-bit parallel outputs from external latch circuits. High active.																																																																																					
10	D-DIR	OUT	Transmits direction signals for the bi-directional beffers in the external latch circuits. Transmits same signals as $\overline{\text{IN}}_0$ through $\overline{\text{IN}}_3$ in the input mode.																																																																																					
11	ADRS-P	OUT	Transmits 16-bit, parallel-port expansion signals.																																																																																					
12 TO 27	A0 TO A15	OUTS	Transmits address signals for external RAMS. A0 is the “LSB”. A7 through A0 are used while in connections with the D-RAM.																																																																																					
28	$\overline{\text{OE}}$	OUT	Transmits $\overline{\text{OE}}$ signal to external RAMs.																																																																																					
29	$\overline{\text{WE}}$	OUT	Transmits $\overline{\text{WE}}$ signal to external RAMs.																																																																																					
30	$\overline{\text{RAS}}$	OUT	Transmits $\overline{\text{RAS}}$ signal to D-RAMs.																																																																																					
31	$\overline{\text{CAS}}$	OUT	Transmits $\overline{\text{CAS}}$ signal to D-RAMs.																																																																																					
32	VDD	IN	Receives (+)-side power-supply voltage of +4.5 V to +5.5 V when reffered to pin 80 (BSS) of this IC. Shorted out to pin 64 externally.																																																																																					
33	$\overline{\text{M-CLK}}$	OUT	Transmits clock signal for external ICs.																																																																																					
34	$\overline{\text{MCK-OUT}}$	OUT	Transmits internal crystal-oscillator’s signal.																																																																																					
35	$\overline{\text{MCK-IN}}$	IN	Receives internal crystal-oscillator’s output or external clocking signal.																																																																																					
36	S-MODE	IN	Receives external RAM selecting signal. “H” state: S-RAM. “L” state: D-RAM.																																																																																					
37	ADS-A	INS	RAM-word-number selecting pin for 6 modes. <table><tr><td></td><td>2K</td><td>4K</td><td>8K</td><td>16K</td><td>32K</td><td>64K</td></tr><tr><td>ADS-A</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td></tr><tr><td>ADS-B</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td></tr><tr><td>ADS-C</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td></tr></table>		2K	4K	8K	16K	32K	64K	ADS-A	H	L	H	L	H	L	ADS-B	L	L	H	H	L	L	ADS-C	H	H	L	L	L	L																																																									
	2K		4K	8K	16K	32K	64K																																																																																	
ADS-A	H		L	H	L	H	L																																																																																	
ADS-B	L		L	H	H	L	L																																																																																	
ADS-C	H	H	L	L	L	L																																																																																		
38	ADS-B																																																																																							
39	ADS-C																																																																																							
40	BKS-A	INS	Bit-clock-number-determination selecting pin. <table><tr><td>NUMBER OF CLOCK</td><td>34</td><td>36</td><td>38</td><td>40</td><td>42</td><td>44</td><td>46</td><td>48</td><td>50</td><td>52</td><td>54</td><td>56</td><td>58</td><td>60</td><td>62</td><td>64</td></tr><tr><td>BKS-A</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>BKS-B</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td></tr><tr><td>BKS-C</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td></tr><tr><td>BKS-D</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td><td>H</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td></tr></table>	NUMBER OF CLOCK	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	BKS-A	L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H	BKS-B	L	H	H	L	L	H	H	L	L	H	H	L	L	H	H	L	BKS-C	L	H	H	H	H	L	L	L	L	H	H	H	H	L	L	L	BKS-D	L	H	H	H	H	H	H	H	H	L	L	L	L	L	L	L
NUMBER OF CLOCK	34		36	38	40	42	44	46	48	50	52	54	56	58	60	62	64																																																																							
BKS-A	L		H	L	H	L	H	L	H	L	H	L	H	L	H	L	H																																																																							
BKS-B	L		H	H	L	L	H	H	L	L	H	H	L	L	H	H	L																																																																							
BKS-C	L		H	H	H	H	L	L	L	L	H	H	H	H	L	L	L																																																																							
BKS-D	L	H	H	H	H	H	H	H	H	L	L	L	L	L	L	L																																																																								
41	BKS-B																																																																																							
42	BKS-C																																																																																							
43	BKS-D																																																																																							
44	EX-MODE	IN	Selects transferring modes of 2 x 16-bit serial data. “H” state: LR-CLK or DAB-CLK pin becomes in input. “L” state: LR-CLK or DAB-CLK pin becomes in output.																																																																																					

PIN NR.	NAMING	INS OR OUTS	FUNCTION (S)
45	VSS	IN	Receives ground side of power supply. Shorted out to pin 80 externally.
46	TEST-CK	IN	Used as a test pin. Locked to "L" state in this unit. (Receives reset signal for the data-address counter).
47	TEST-R	IN	Used as a test pin. Locked to "L" state in this unit. (Receives reset signal for the data-address counter).
48	DA-OUT	OUT	Transmits 2 x 6-bit serial data of the digital-audio stereo signals.
49	DAB-CLK	IN AND OUT	Transmits bit clock signal for transferring DA-OUT signal. DA-OUT signal changes at the trailing edge of this signal.
50	W-CLK	OUT	Transmits word-clock signal.
51	LR-CLK	IN	Clocks the sampling frequency. "H" state: Transfers L-CHANNEL signals. "L" state: Transfers R-CHANNEL signals.
52	ADB-CLK	OUT	Transmits digout clock signal of AD-IN data. Takes in one bit at the trailing edge of this clock signal.
53	AD-IN	IN	Receives 2 x 6-bit serial data of the digital-audio stereo signals.
54	NC	N/A	Not connected to the internal circuits, and just floating. Stray capacitors to the next pins 53 and 55 should be taken into account when this pin is to be used.
55	DATA-P	OUT	Transmits "H"-state signal during data accesses.
56	OVF16	OUT	Transmits "H"-state signal when the internal 16-bit clipper has operated.
57	OVF22	OUT	Transmits "H"-state signal when the internal 22-bit adder has overflowed.
58	ZERO-P	OUT	Transmits "H"-state signal during executing the zero instruction.
59	MUTE	IN	Puts the DA-OUT signal to "L" state and mutes it. High active.
60	$\overline{\text{PRG-L}}$	IN	Receives serial PRG-DT data and transfers them to the latch circuits in parallel form.
61	PRG-DT	IN	Receives serial data for transferring micro programs.
62	PRG-CK	IN	Receives clock signal for transferring micro program. Takes PRG-DT data in at every leading edge.
63	F-MODE	IN	Makes data accessing of zero instruction possible by disabling program transfers to RAM.
64	VDD	IN	Receives (+)-side power-supply voltage of +4.5V to +5.5 V when referred to pin 80 (VSS) of this IC. Shorted out to pin 32 externally.
65 TO 79	D0 TO D15	INS AND OUTS	Transmit and receive data of external RAMs and latches.
80	VSS	IN	Receives ground side of power supply. Shorted out to pin 45 externally.



1-3. DESCRIPTION ON THE MICROCOMPUTER CXP5016H-118S (IC702)

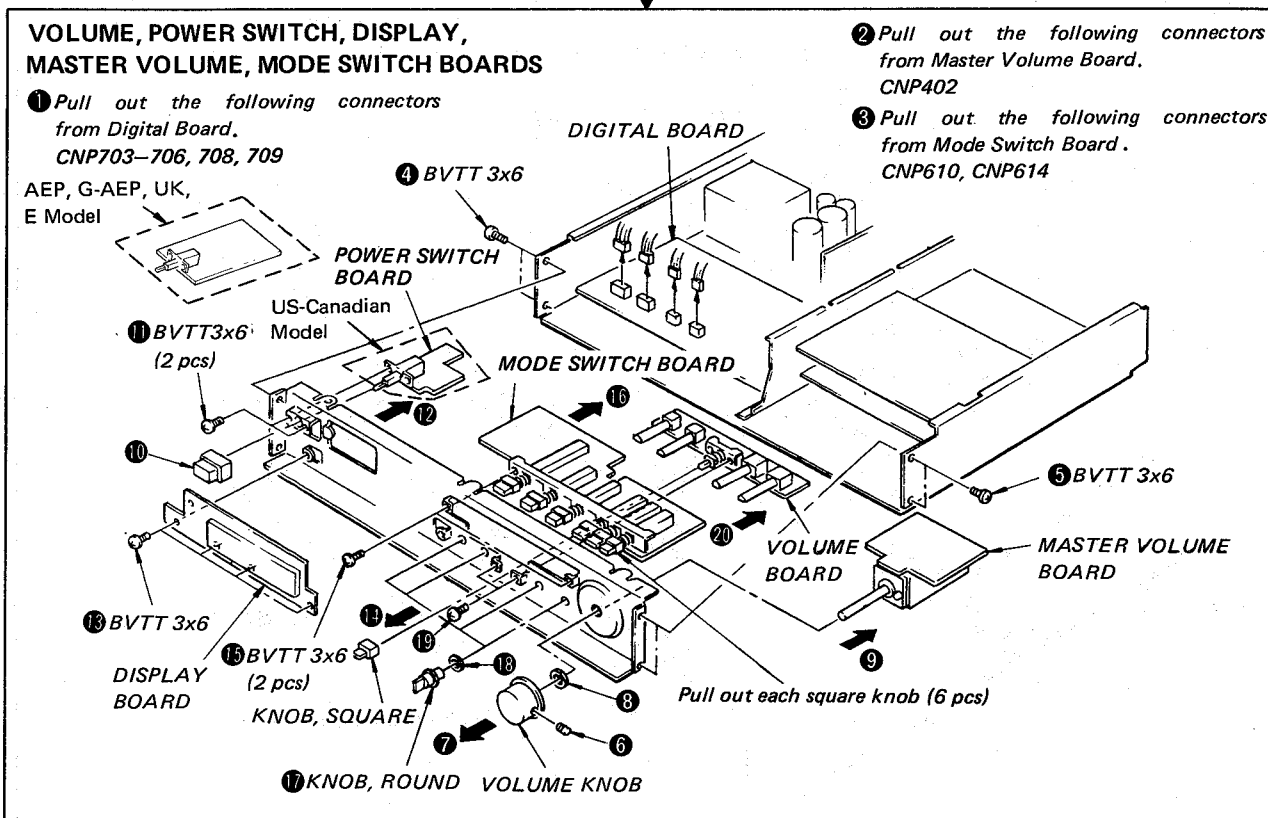
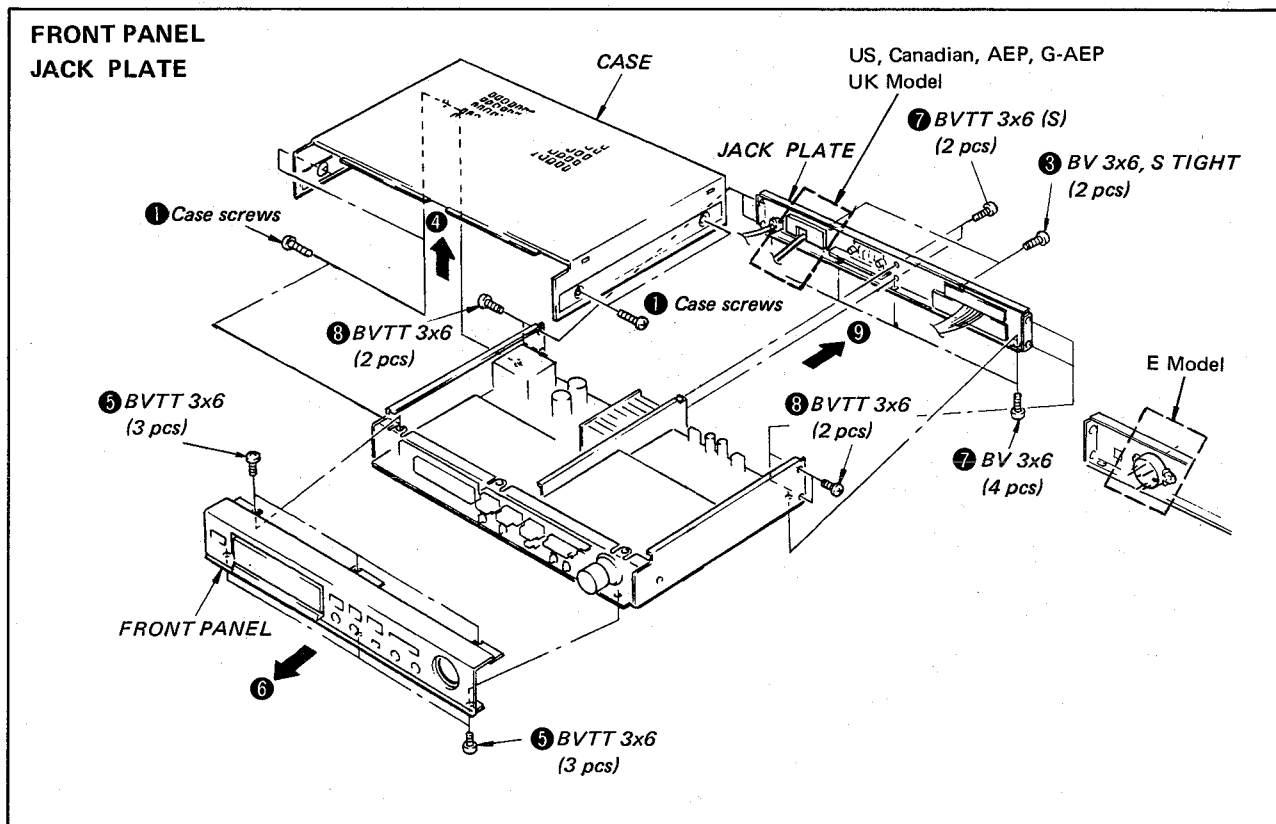
The microcomputer CXP5016H-118S of this unit receives key-input data and decodes them. Then this IC executes transmitting these decoded and resultant data to the digital controller IC703, external RAM IC708 and to the display section.

PIN NR	NAMING	FUNCTION (S)
1	PY1	Output port for the relay drive.
2	PY2	Receives off-detection signal.
3	PY3	Input port for key inputs.
4	SC	Clock-output port for the DPS-data transmissions.
5	SOB	Data-output port for the DPS-data transmissions.
6	SOA	Not used.
7	SI	
8	PD0	Output port for the DPS-latch circuits.
9	PD1	Output port for the DPS-muting circuits.
10	PD2	Output port for the test-relay drive.
11	PD3	Output port for the test-clock signal.
12 TO 15	PC0 TO PC3	Output ports for the external-RAM addresses.
16 TO 18	PF0 TO PF2	Output ports for the external-RAM addresses.
19	PF3	Pulled up to +5 V power-supply voltage.
20 TO 23	PE0 TO PE3	Input and output ports for the external-RAM's data communications.
24	PB0	Output port for the external RAM's RW pin.
25	PB1	Output port for the external RAM's OD pin.
26	PB2	Input port for the mode key.
27	PB3	Input port for the mode key.
28 TO 31	PA0 TO PA3	Input ports for the key inputs. Low active.
32	VSS	Grounding pin.
33 TO 41	S0 TO S8	Output ports for the display-tube segment-driving signals. High active.
42 TO 44	S9 TO S11	Not used.
45 TO 48	T11 TO T8	Output ports for the function keys and LED-scanning signals.
49	T7	Not used.
50 TO 56	T6 TO T0	Output ports for the display-tube grid-driving signals. High active.
57	VFDP	Not used.
58	INT2	
59	INT1	Input port for detecting the OFF state.
60	XTAL	Transmits internal clocking signal.
61	EXTAL	Receives clocking signal from external generator.
62	RST	System-reset terminal.
63	PY0	Output port of the reset signal for self-resetting.
64	VDD	Receives (+)-side power-supply voltage from +5 V supply.

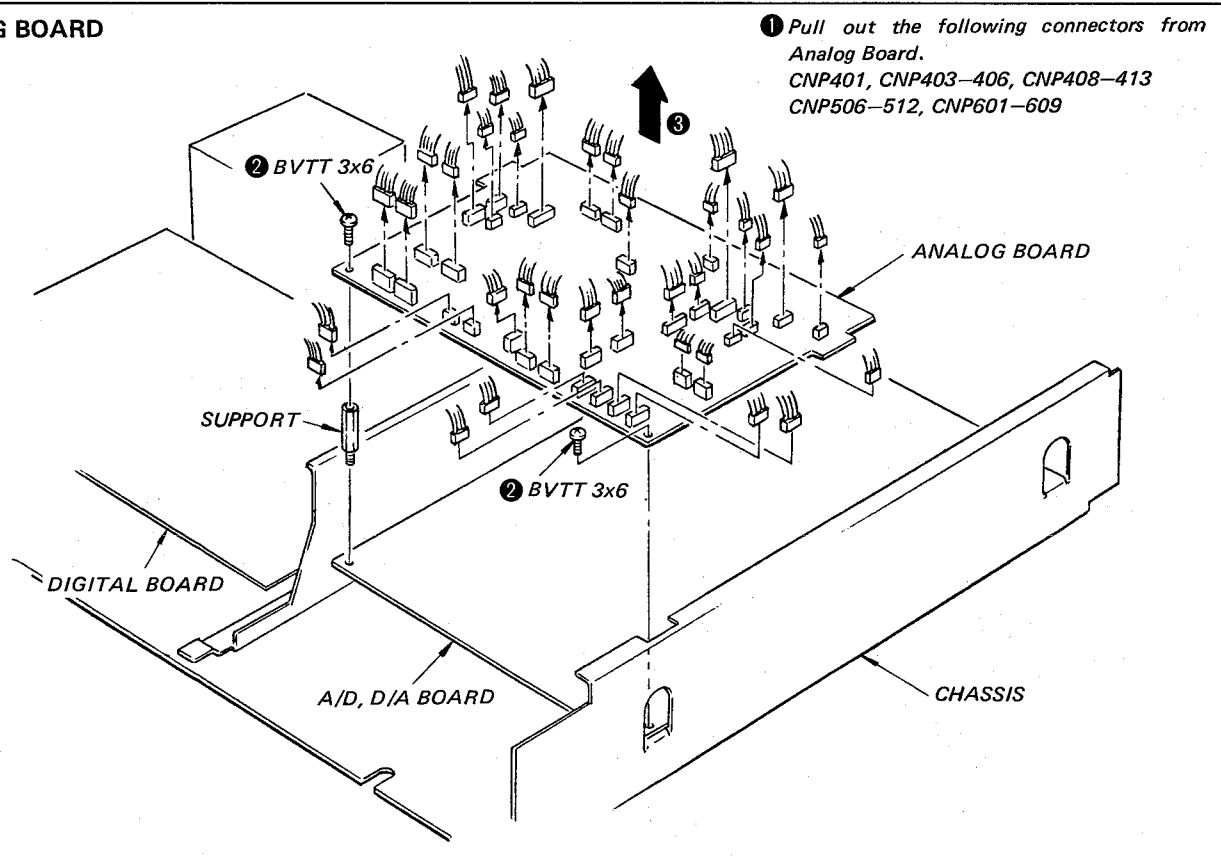
MEMO

SECTION 2 DISASSEMBLY

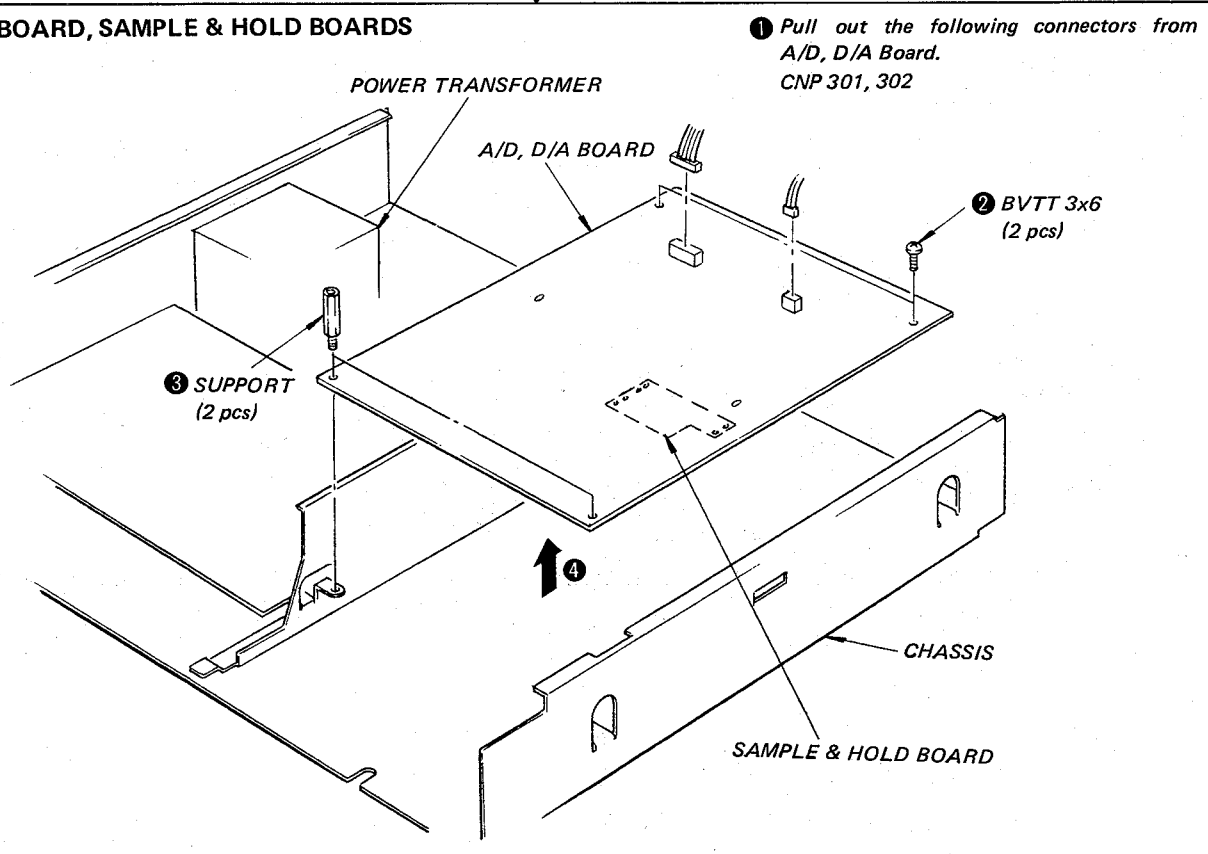
Note: Follow the disassembly procedure in the numerical order given.



ANALOG BOARD



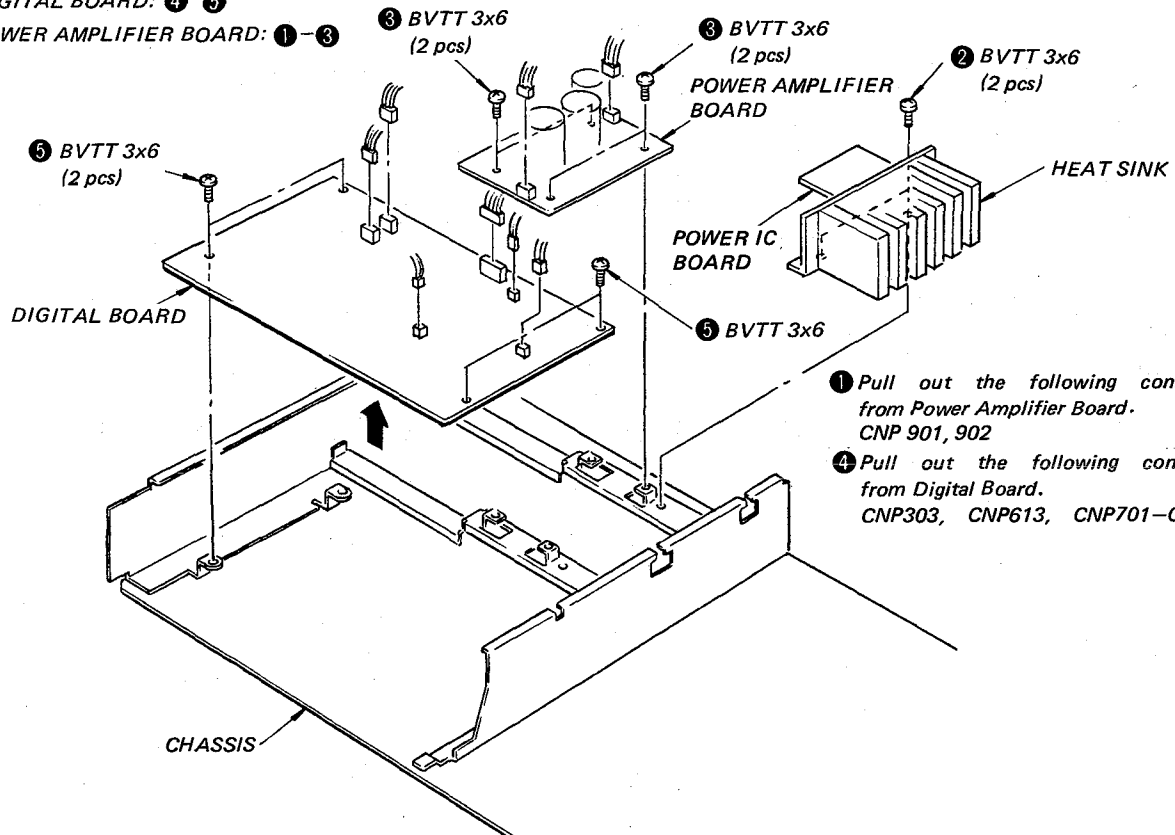
A/D D/A BOARD, SAMPLE & HOLD BOARDS



DIGITAL/POWER AMPLIFIER BOARDS

DIGITAL BOARD: ④ ⑤

POWER AMPLIFIER BOARD: ①-③



SECTION 3 ELECTRICAL ADJUSTMENTS

- SWITCH POSITION
SURROUND MODE OFF
SPEAKERS OFF
SURROUND LEVEL MIN
MASTER VOLUME 0

• INPUT LEVEL

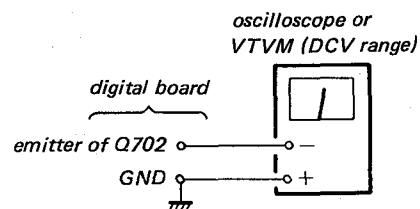
Input terminal	LINE IN
Input impedance	50 k Ω
Input level	0.24 V (–10 dB)

• OUTPUT LEVEL

Output terminal	SURROUND OUT
Output impedance	100 Ω
Output signal level	0.24 V (–10 dB)

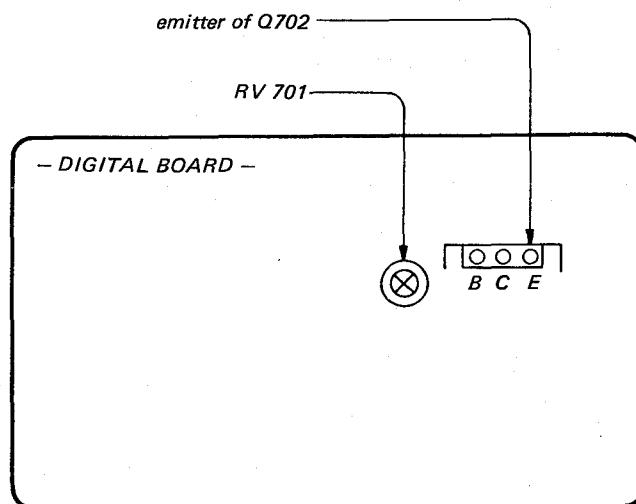
–5V Adjustment

Procedure



1. Connect an oscilloscope or VTVM (DCV range) to the emitter of Q702.
2. Adjust RV701 so that the oscilloscope or VTVM reads –5 VDC.

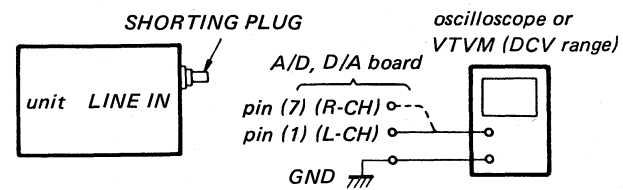
Adjustment Location: – digital board –



SECTION 4
DIAGRAMS

D/A and A/D Offset-Voltage Adjustment

Procedure



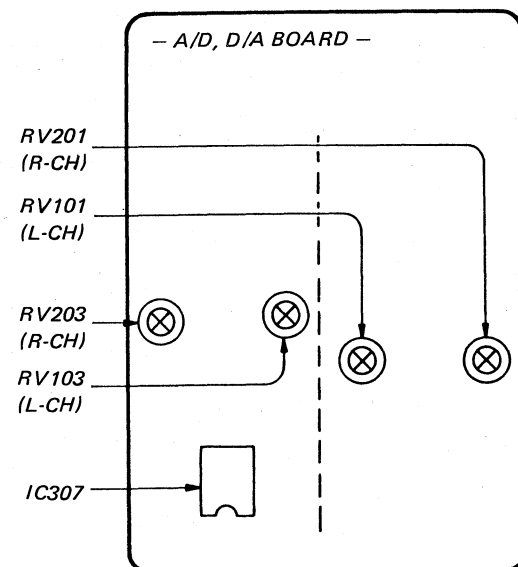
D/A Offset Adjustment:

1. Connect an oscilloscope or VTVM (DCV range) to pin (1) (L-CH) or pin (7) (R-CH) of IC307.
2. Turn SURROUND MODE switch off.
3. Adjust RV103 (L-CH) or RV203 (R-CH) so that the voltage reading becomes in $0\text{ V} \pm 50\text{ mV}$.

A/D Offset Adjustment:

1. Connect an oscilloscope or VTVM (DCV range) as above.
2. Turn the PRESENCE DELAY switch of the SURROUND MODE on.
3. Connect a shorting plug to the LINE IN connector.
4. Adjust RV101 (L-CH) or RV201 (R-CH) so that the voltage reading becomes in $0\text{ V} \pm 50\text{ mV}$.

Adjustment Location: — A/D, D/A board —

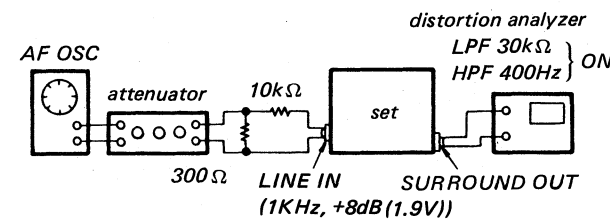


A/D Distortion Adjustment

Note: Top-grade audio-signal generator and distortion analyzer are required to perform this adjustment.

Setting:

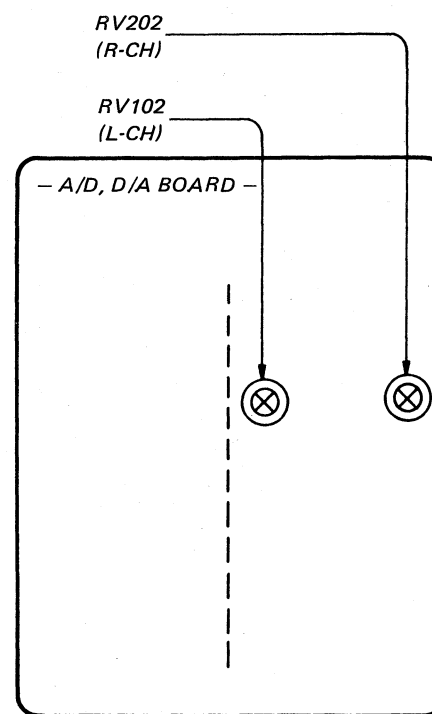
- SURROUND MODE DELAY Switch: ON
MASTER VOLUME control: 10 (maximum)
SURROUND LEVEL control: MAX



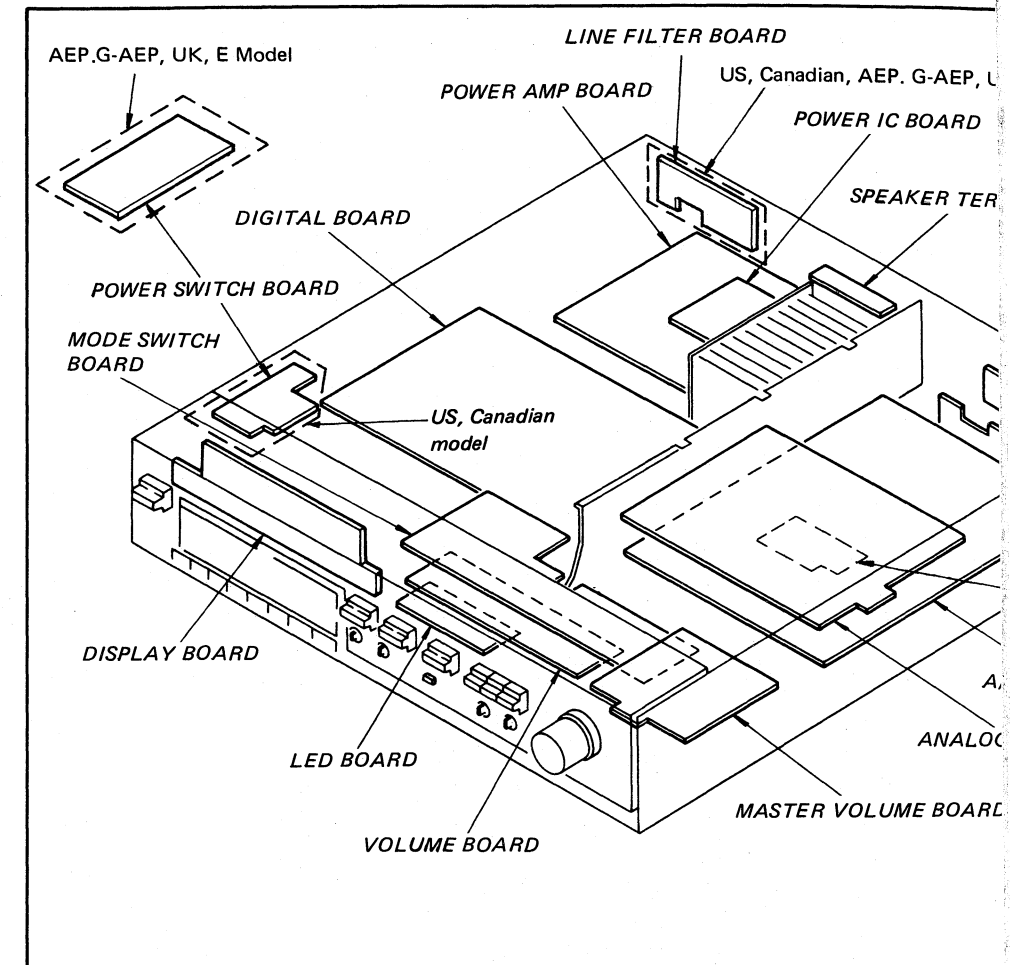
Procedure:

Adjust RV102 (L-CH) or RV202 (R-CH) so that minimum distortion is obtained on the distortion meter. Minimum distortion should be lower than 0.008 % after warming up.

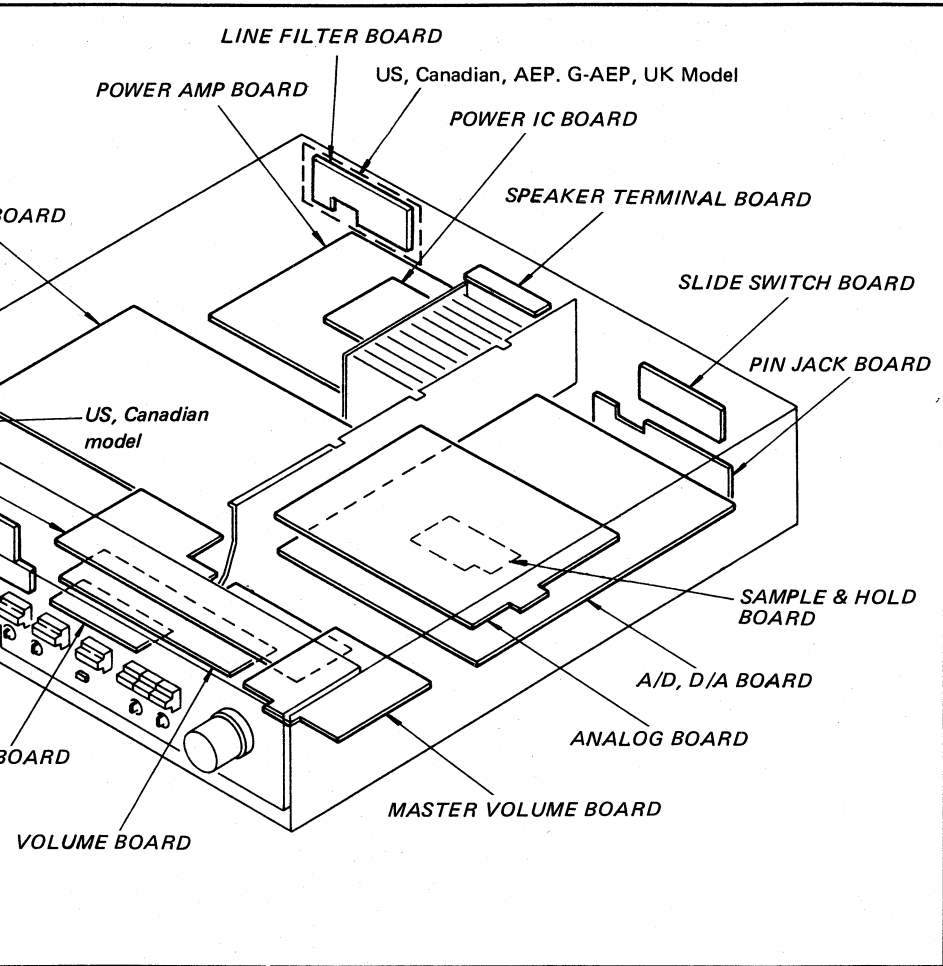
Adjustment Location: — A/D, D/A board —



4-1. PC BOARDS LAYOUT



SECTION 4
DIAGRAMS



Note: (DIGITAL BOARD SECTION)

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- $\longrightarrow$: signal path

Note: The components identified by shading and mark $\triangle$ are critical for safety. Replace only with part number specified.

- $\square$: nonflammable resistor.
- $\square$: fusible resistor.
- Switch

Ref. No.	Switch	Position
S401-1-2	DOLBY SURROUND	OFF
S401-2	PRESENCE DELAY	OFF
S401-3	OFF	ON
S401-4	MATRIX	OFF
S401-5	HALL	OFF
S401-6	SIMULATE	OFF
S701	+	OFF
S702	-	OFF
S703	+	OFF
S704	-	OFF
S705	SET	OFF
S706	1	OFF
S707	2	OFF
S708	3	OFF
S709	TEST TONE	OFF
S901	SPEAKERS	OFF
S902	POWER	OFF

- --- : B+ bus.
- --- : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 $\text{k}\Omega/\text{V}$).
() : DOLBY SURROUND OFF
no mark: DOLBY SURROUND ON
- Voltage variations may be noted due to normal production tolerances.

Note: (A/D, D/A BOARD SECTION)

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- %: Indicates tolerances.
- Switch

Ref. No.	Switch	Position
S401-1	DOLBY SURROUND	OFF
S402	SURROUND OUT	NORMAL
	POLARITY	
S403	LEVEL	LOW

- --- : B+ bus.
- --- : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 $\text{k}\Omega/\text{V}$).
() : DOLBY SURROUND OFF
no-mark: DOLBY SURROUND ON
- Voltage variations may be noted due to normal production tolerances.

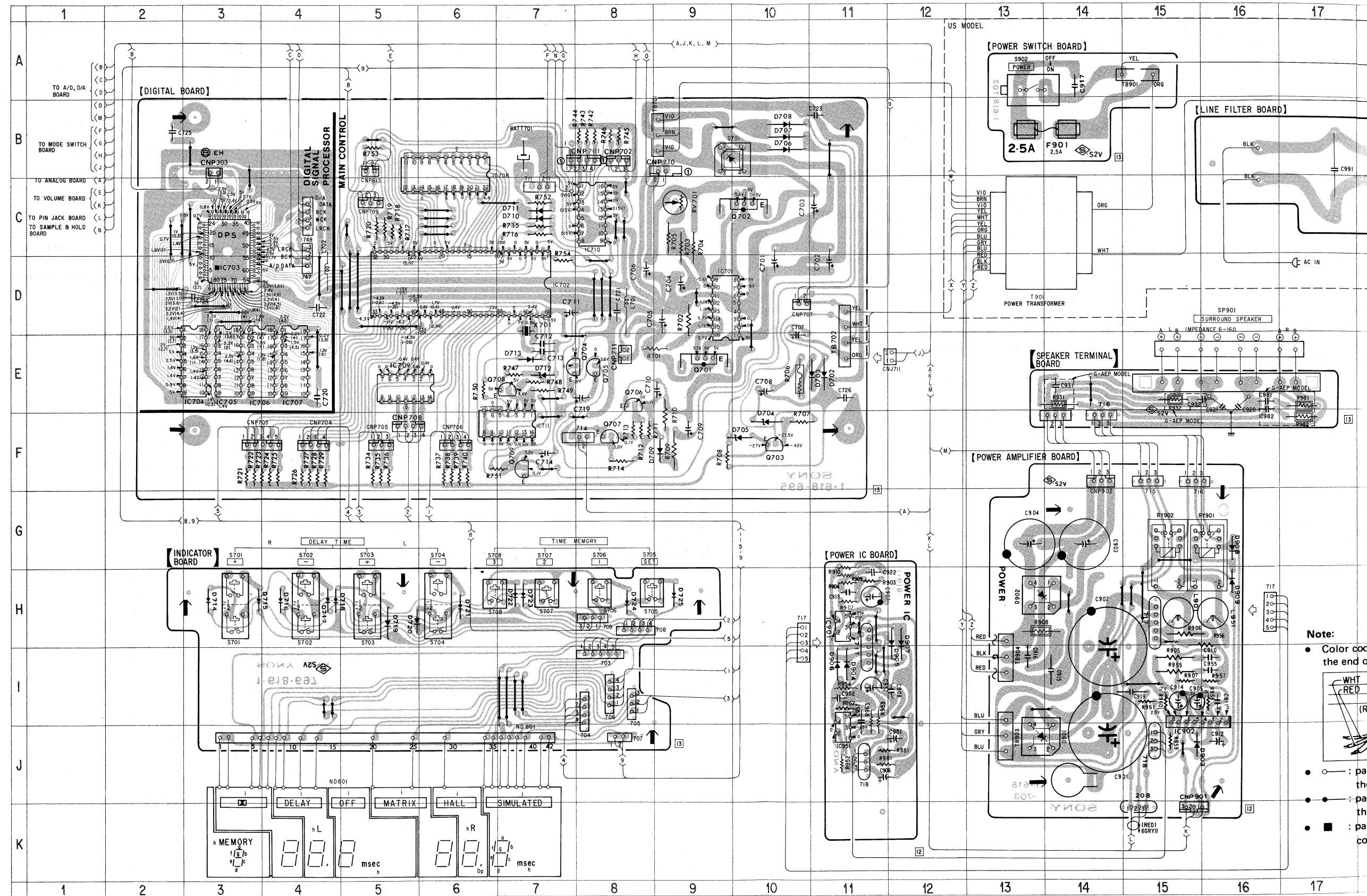
• SEMICONDUCTOR LOCATION

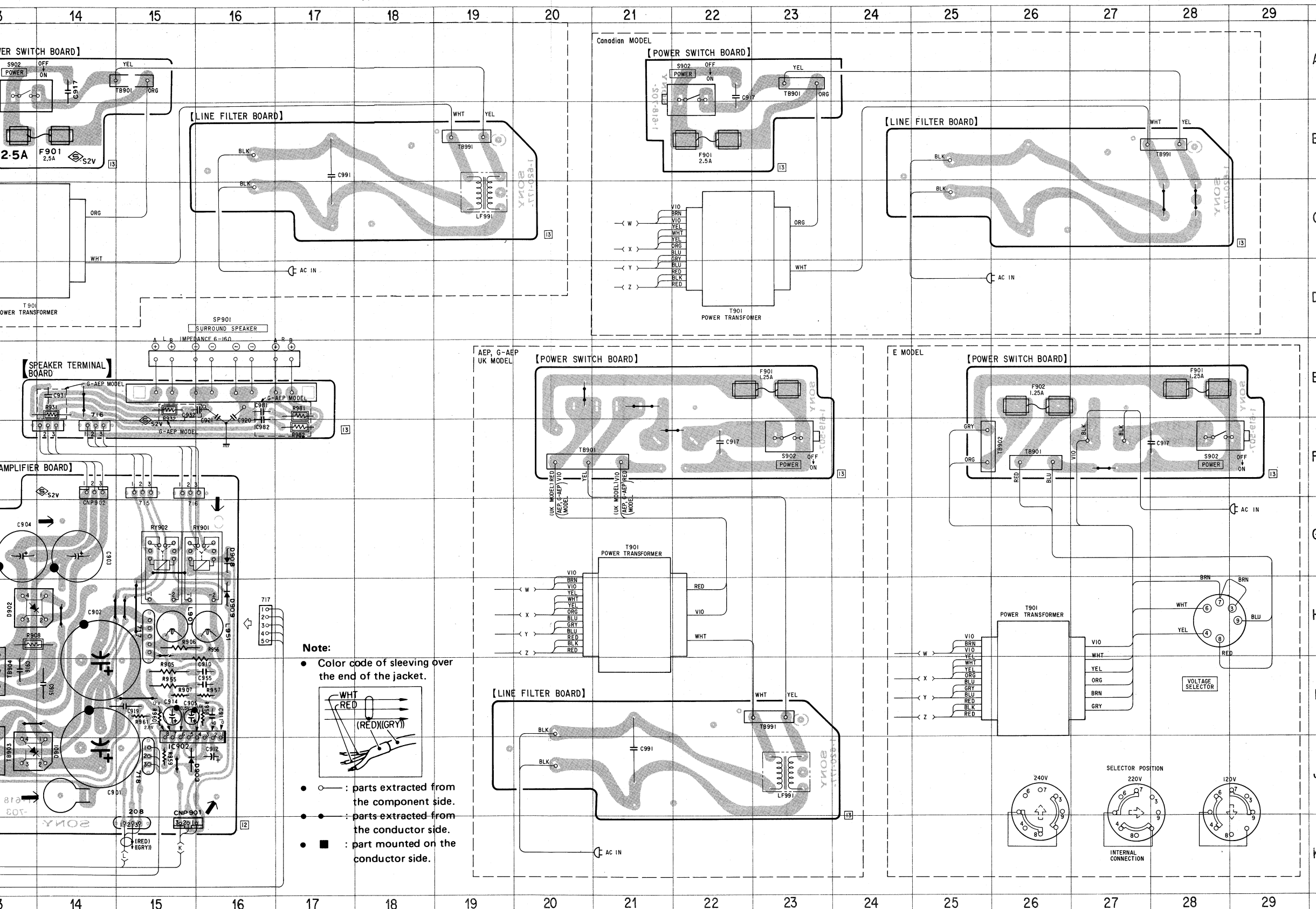
Ref.No.	Location	Ref.No.	Location
IC701	D-9	D701	B-9
IC702	D-6	D702	E-11
IC703	C-3	D703	E-11
IC704	E-3	D704	F-10
IC705	E-3	D705	F-10
IC706	E-4	D706	B-10
IC707	E-4	D707	B-10
IC708	B-6	D708	B-10
IC709	E-5	D709	F-9
IC710	C-8	D710	C-7
IC711	F-7	D711	C-7
IC901	H-11	D712	E-7
IC902	I-15	D713	E-7
IC951	J-11	D714	H-3
		D715	H-3
Q701	E-9	D716	H-4
Q702	C-10	D717	H-4
Q703	F-10	D718	H-4
Q704	E-8	D719	H-5
Q705	E-8	D720	H-5
Q706	E-8	D721	H-6
Q707	F-8	D722	H-7
Q708	E-7	D723	H-7
Q709	F-7	D724	H-8
		D725	H-9
		D901	J-14
		D902	H-13
		D903	I-15
		D904	J-11
		D905	H-12
		D906	I-11
		D907	H-12
		D908	G-16
		D909	H-16

4-2. MOUNTING DIAGRAM (1)

— Conductor Side —
— DIGITAL BOARD SECTION —

- See page 21 for semiconductor location.
- See page 33 for semiconductor lead layouts.

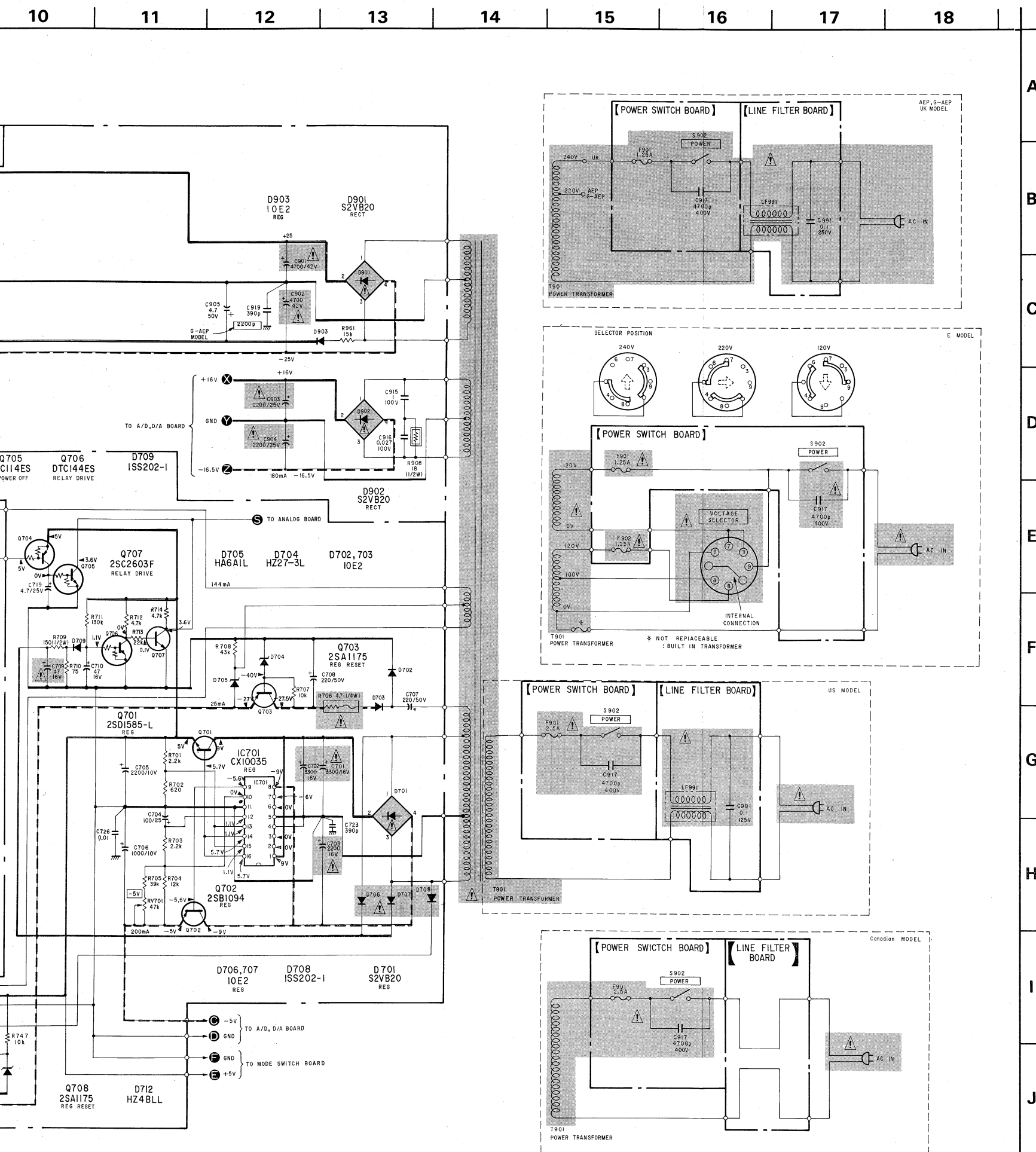




- See pages 34 to 36 for IC block diagrams.
- See page 21 for note.

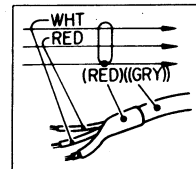
SDP-505ES





Note:

- Color code of sleeving over the end of the jacket.



- ○ — : parts extracted from the component side.
- ● — : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.

● SEMICONDUCTOR LOCATION

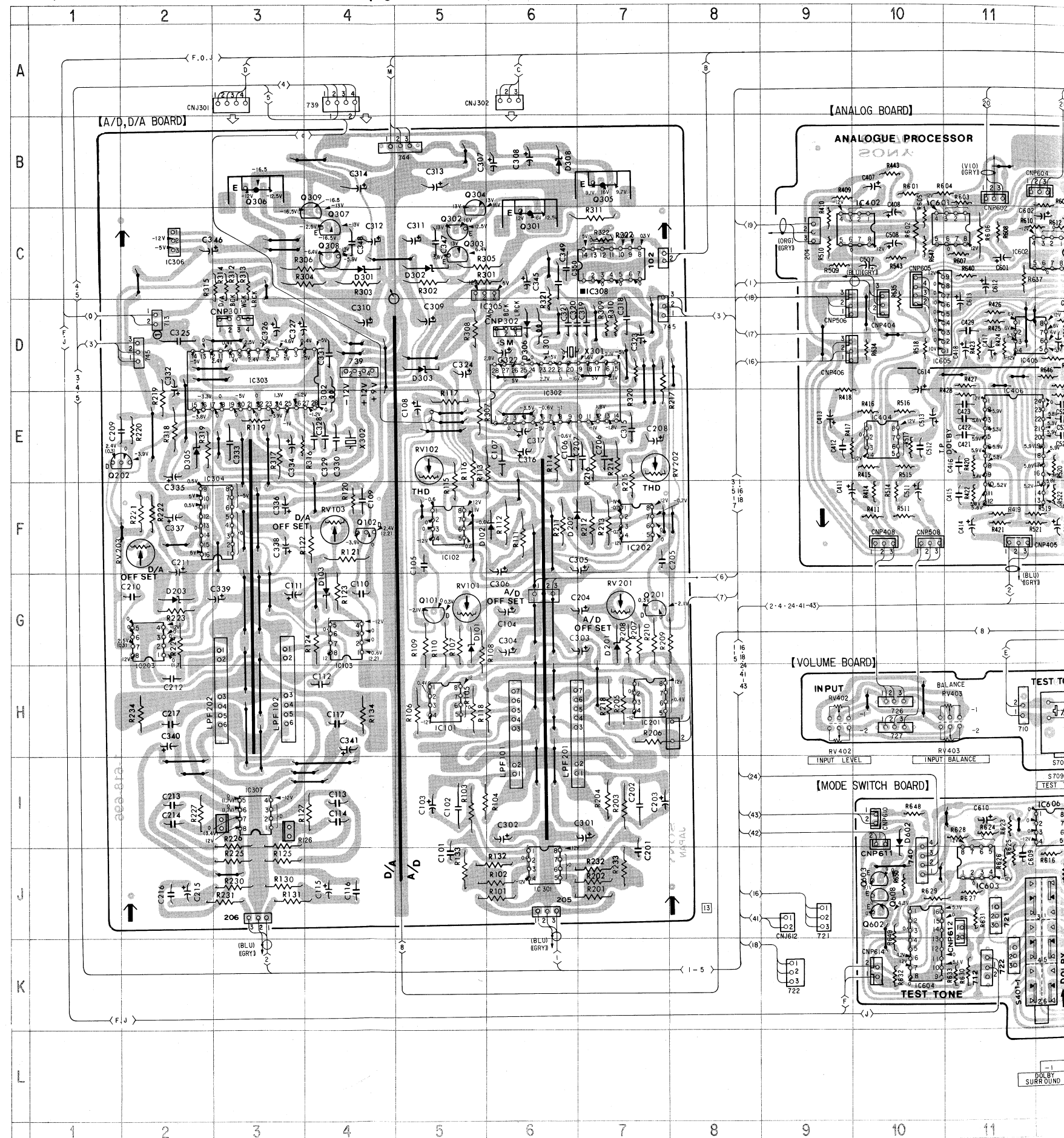
Ref.No.	Location	Ref.No.	Location
IC 101	H-5	Q 307	C-4
IC 102	F-5	Q 308	C-4
IC 103	G-4	Q 309	C-4
IC 201	H-7	Q 601	B-13
IC 202	F-7	Q 602	J-10
IC 203	G-2	Q 603	J-10
IC 251	B-21	Q 604	C-14
IC 301	J-6	Q 605	C-15
IC 302	E-6	Q 606	C-14
IC 303	D-3	Q 607	C-13
IC 304	F-2	Q 608	J-10
IC 305	C-5		
IC 306	C-2		
IC 307	I-3		
IC 308	C-7		
IC 402	C-10	D 101	G-5
IC 404	E-10	D 102	F-5
IC 405	D-11	D 103	G-4
IC 406	E-11	D 201	G-7
IC 407	E-13	D 202	F-6
IC 408	E-14	D 203	G-2
IC 601	C-11	D 251	C-21
IC 602	C-12	D 301	C-4
IC 603	J-11	D 302	C-5
IC 604	K-10	D 303	D-5
IC 605	D-10	D 305	E-2
IC 606	I-12	D 306	D-6
		D 308	B-6
		D 601	J-12
		D 602	I-10
Q 101	G-5	D 603	E-17
Q 201	G-7	D 604	E-17
Q 202	E-1	D 605	E-18
Q 251	B-20	D 606	B-15
Q 301	C-6	D 607	E-20
Q 302	C-5		
Q 303	C-5		
Q 304	C-5		
Q 305	B-7		
Q 306	B-3		

4-4. MOUNTING DIAGRAM (2)

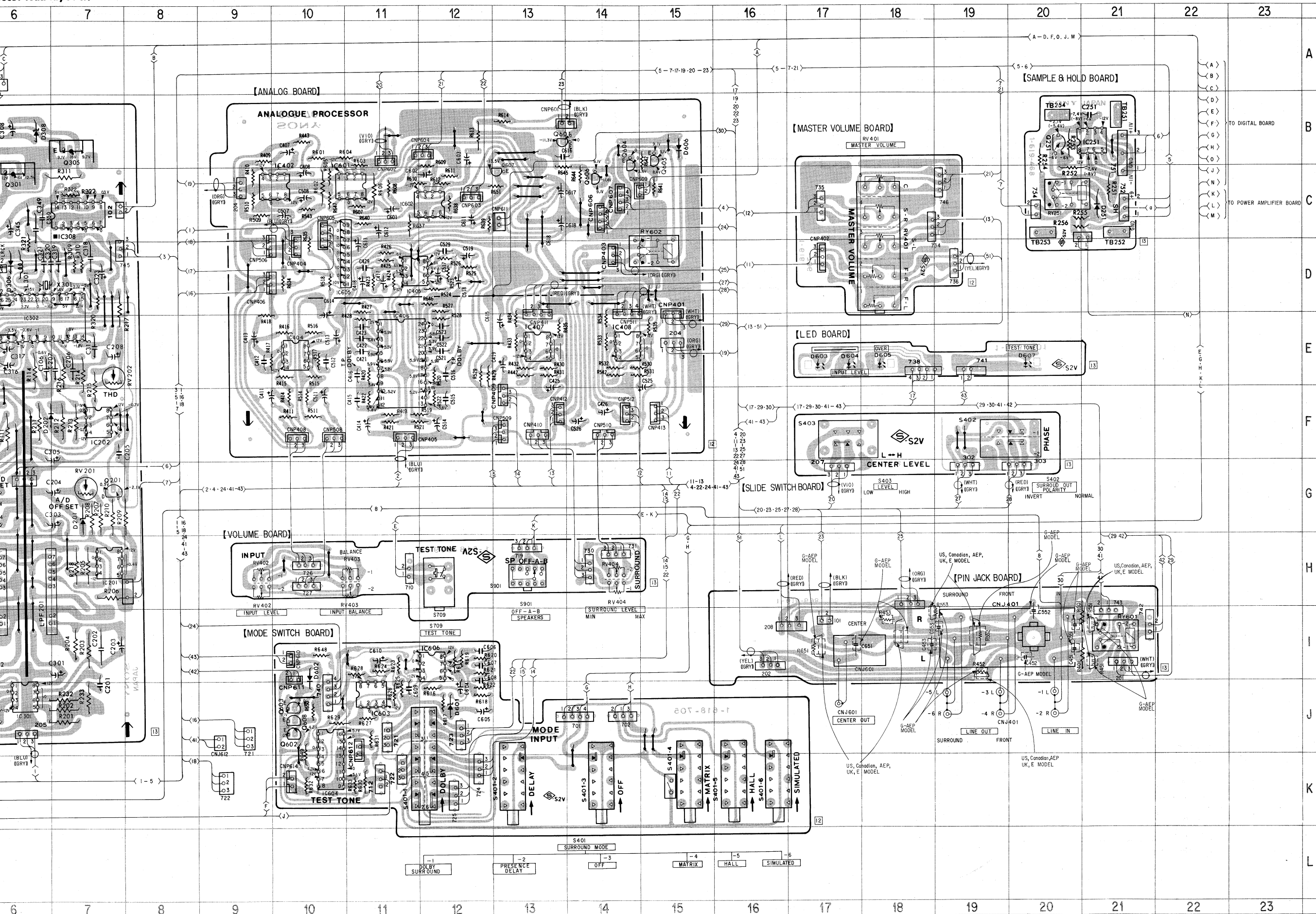
— Conductor Side —

– A/D, D/A BOARD SECTION –

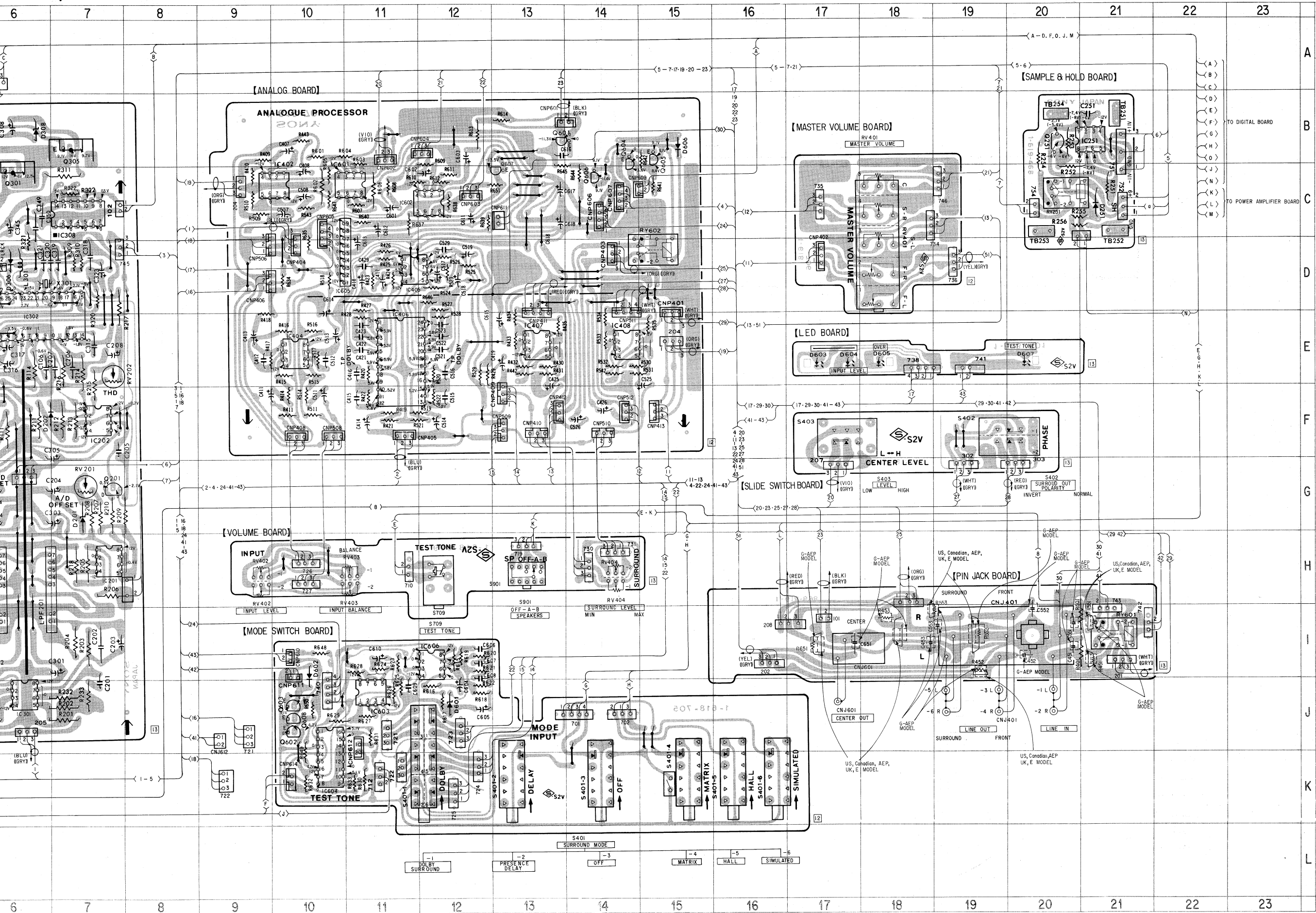
- See page 33 for semiconductor lead layouts.



factor lead layouts.



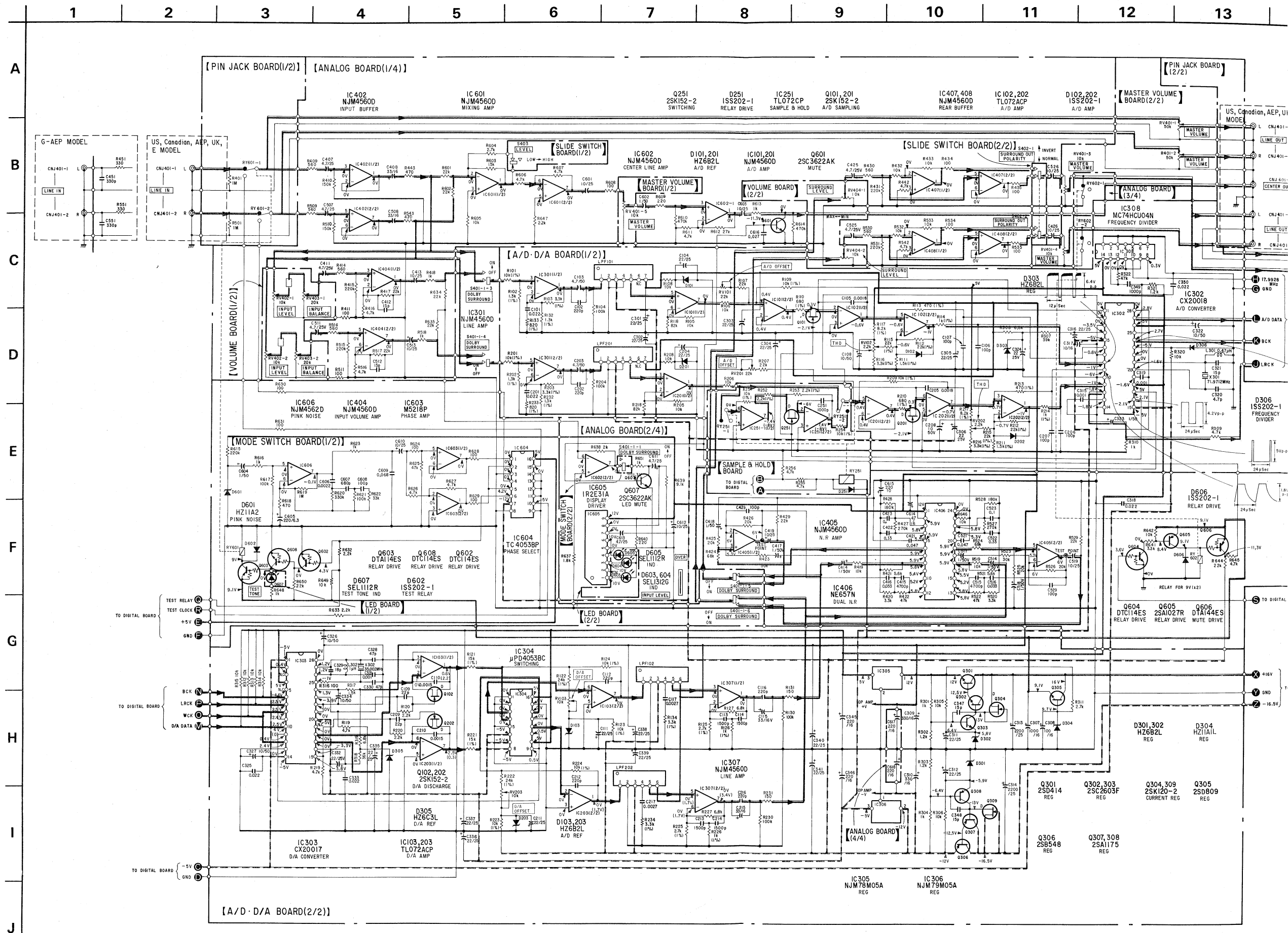
ctor lead layouts.



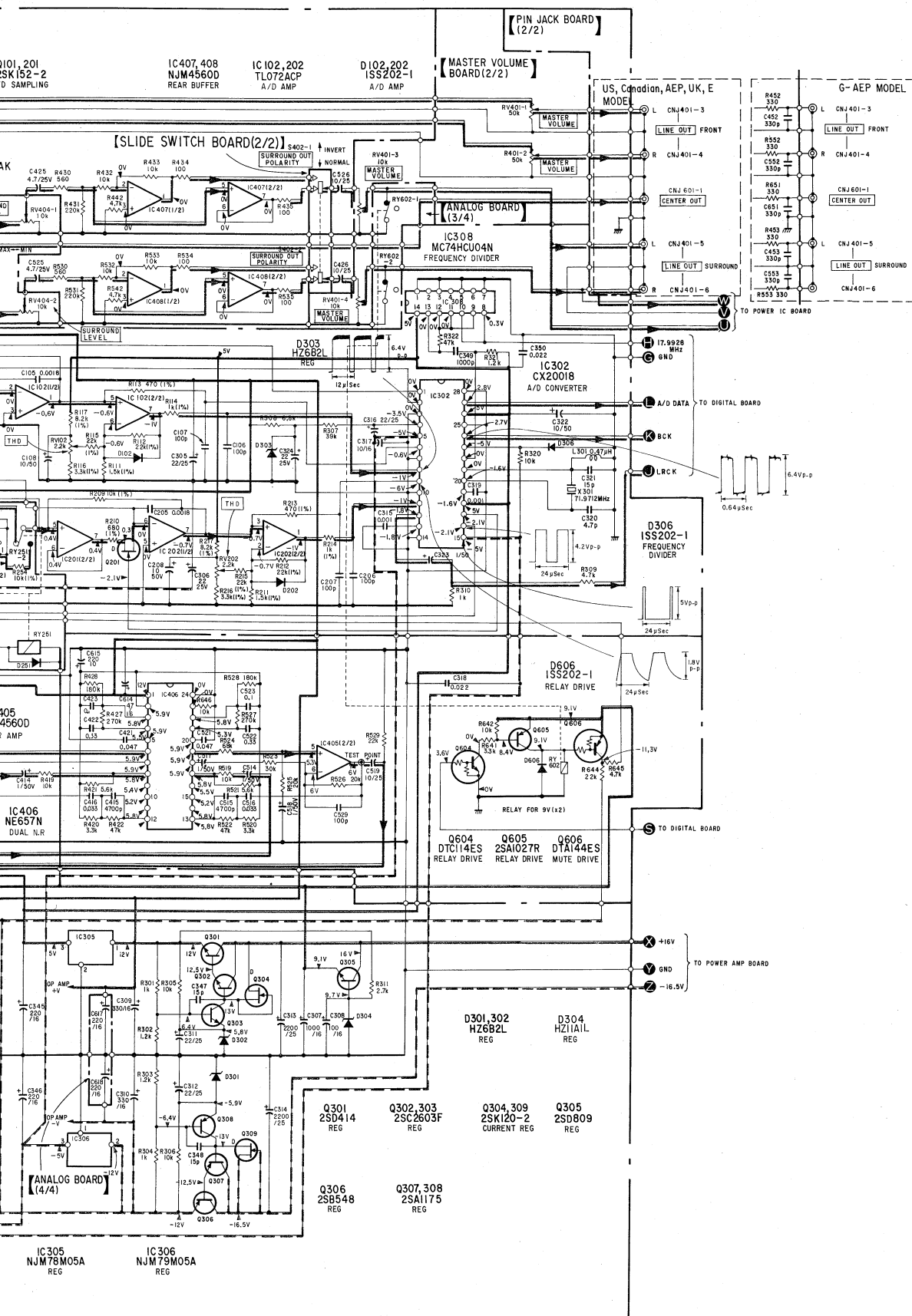
4-5. SCHEMATIC DIAGRAM (2)
— A/D, D/A BOARD SECTION —

- See pages 34 to 36 for IC block diagrams.
- See page 21 for note.

SDP-505ES SDP-505ES

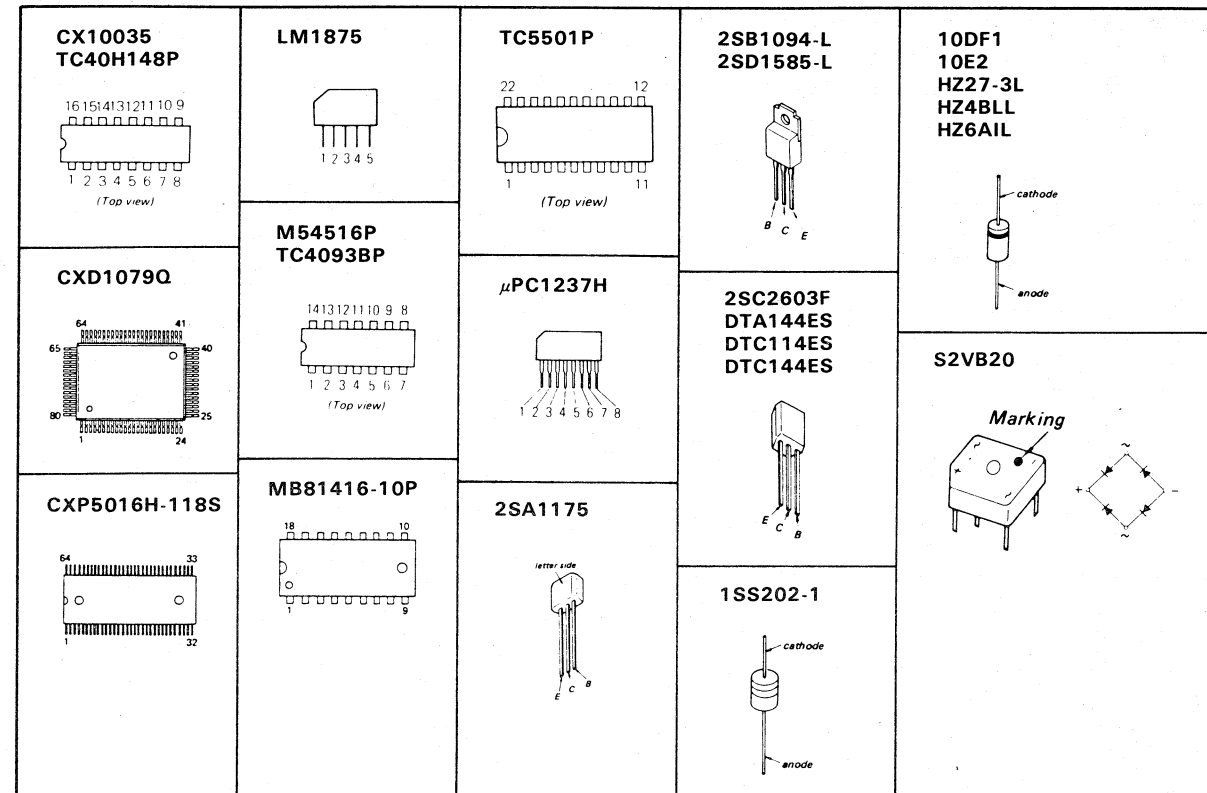


9 10 11 12 13 14 15

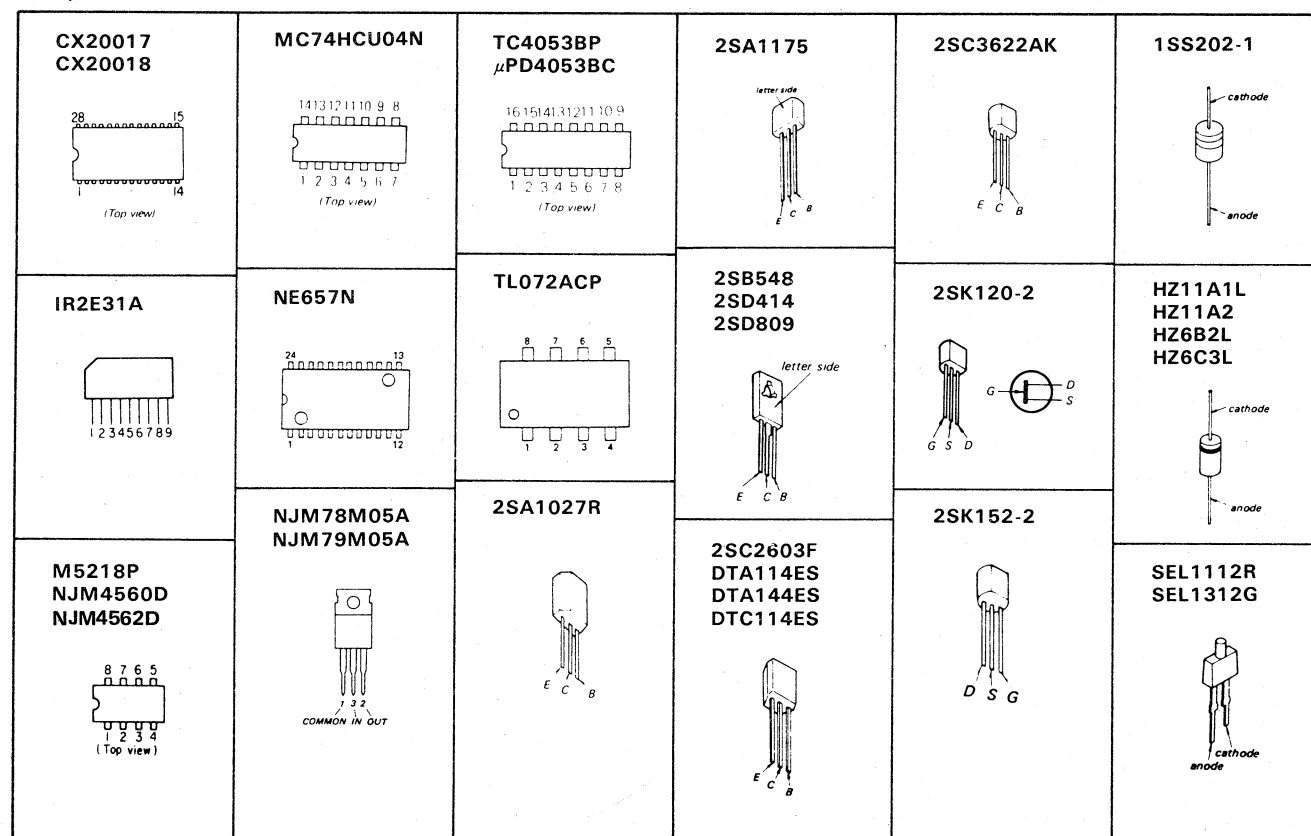


SEMICONDUCTOR LEAD LAYOUTS

DIGITAL SECTION

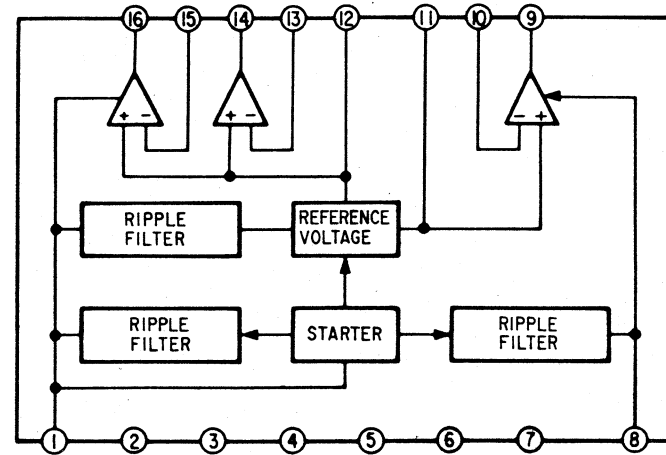


A/D, D/A SECTION

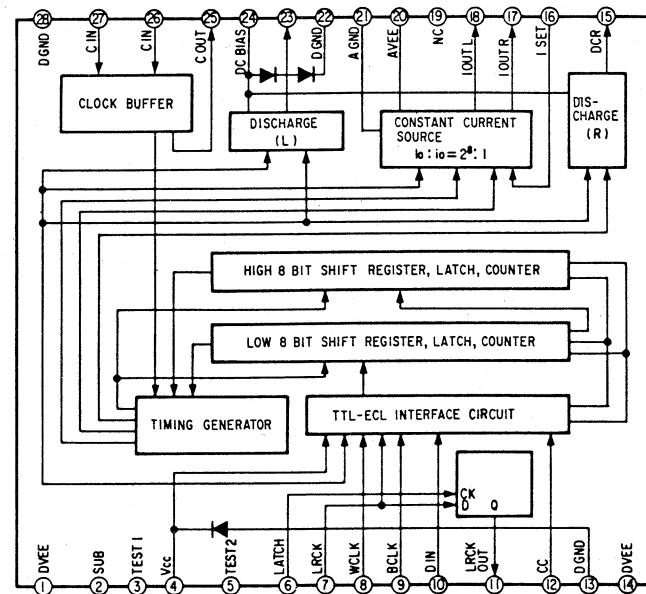


IC BLOCK DIAGRAMS

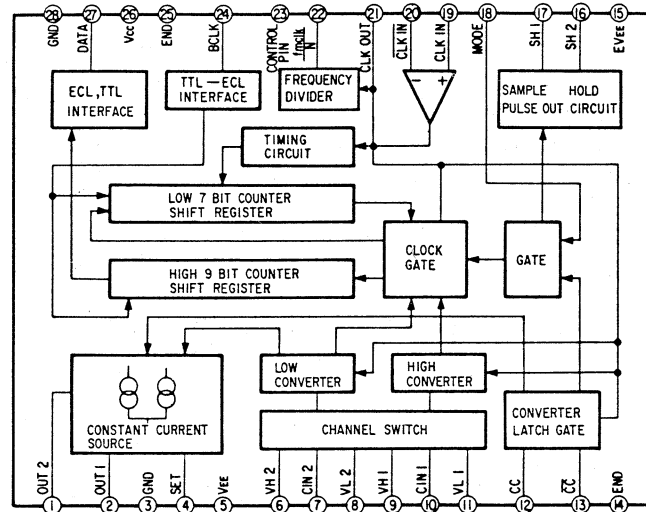
CX10035



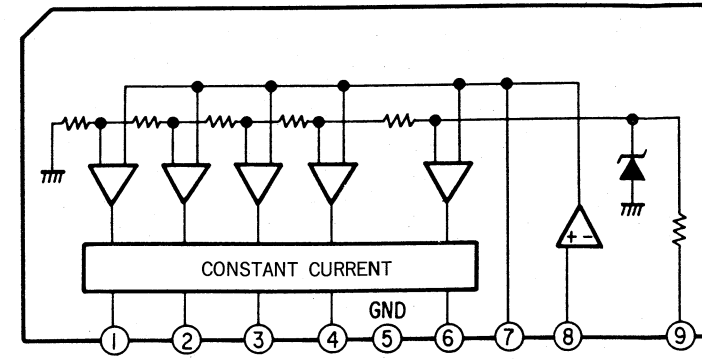
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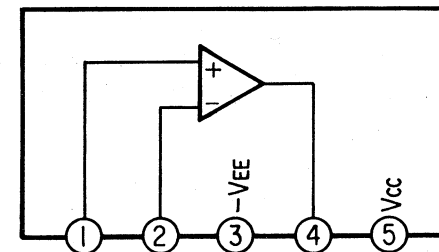
CX20018



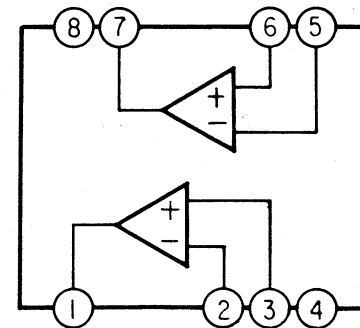
IR2E31A



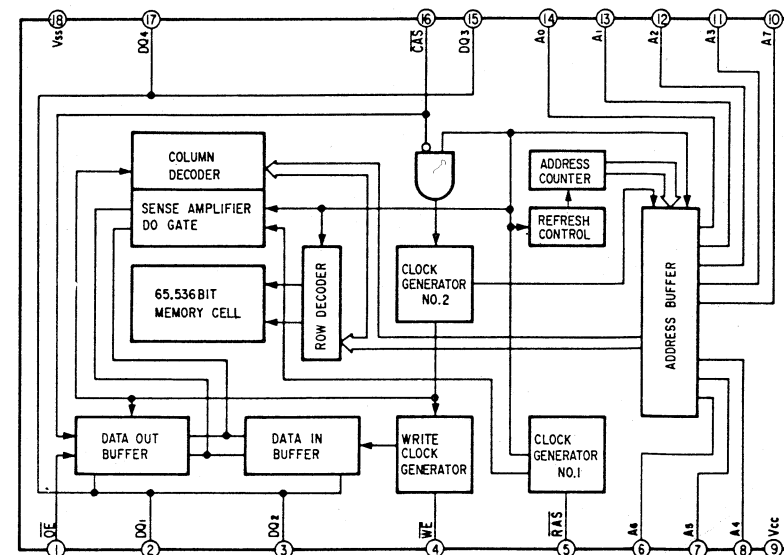
LM1875



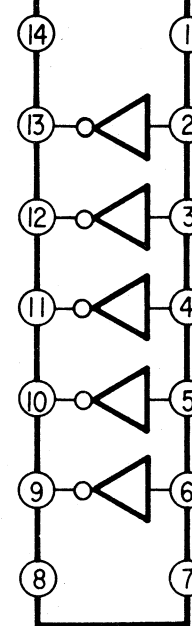
M5218P



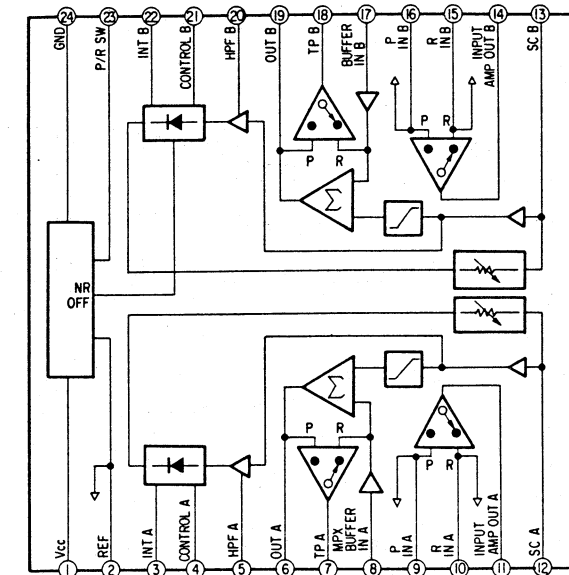
MB81416-10P



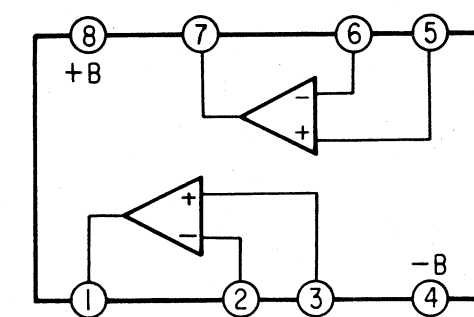
M54516P



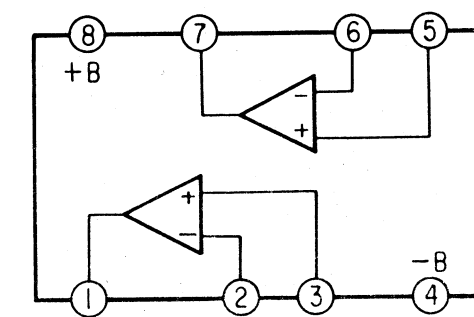
NE657



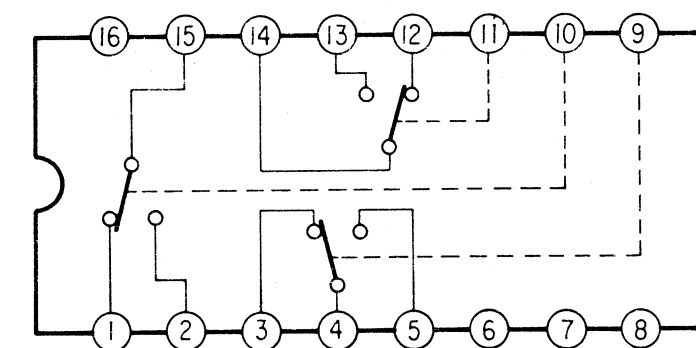
NJM4560D



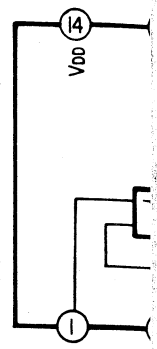
NJM4562D



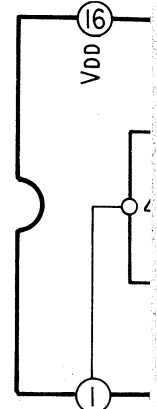
TC4053BP



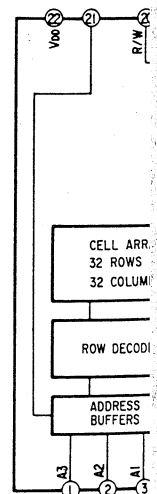
TC4093B



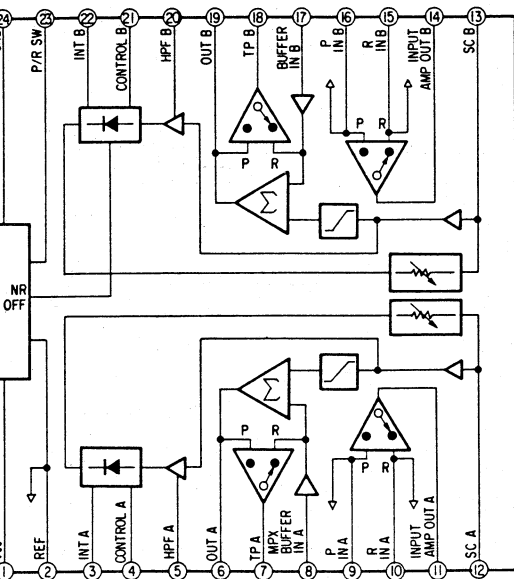
TC40H14



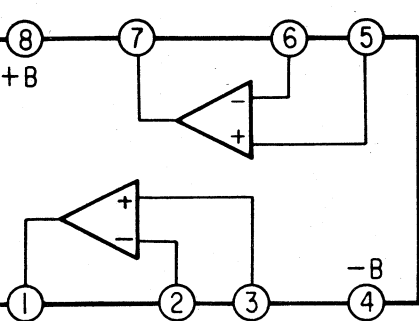
TC550ITF



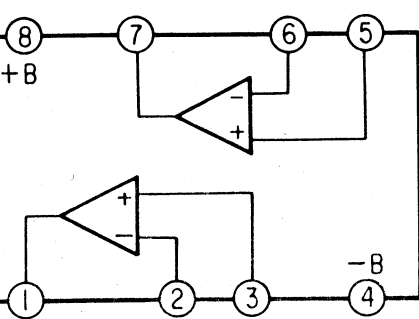
657



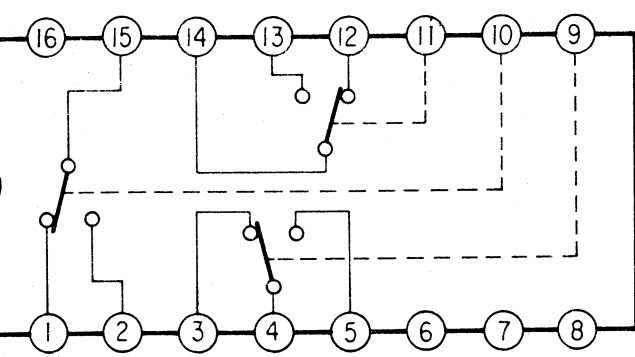
M4560D



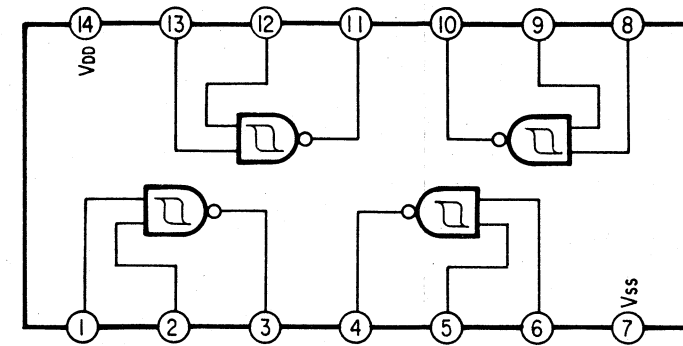
M4562D



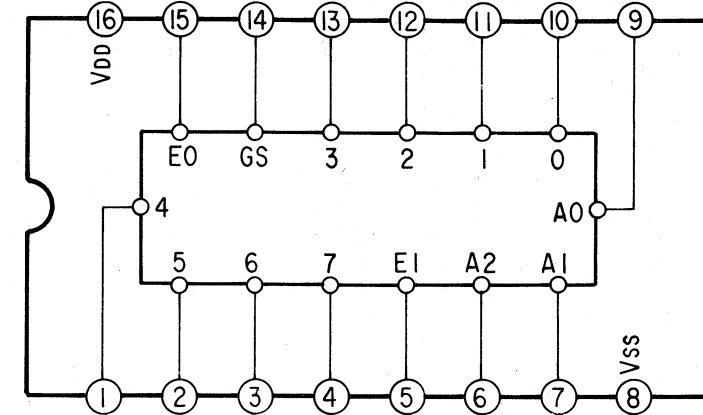
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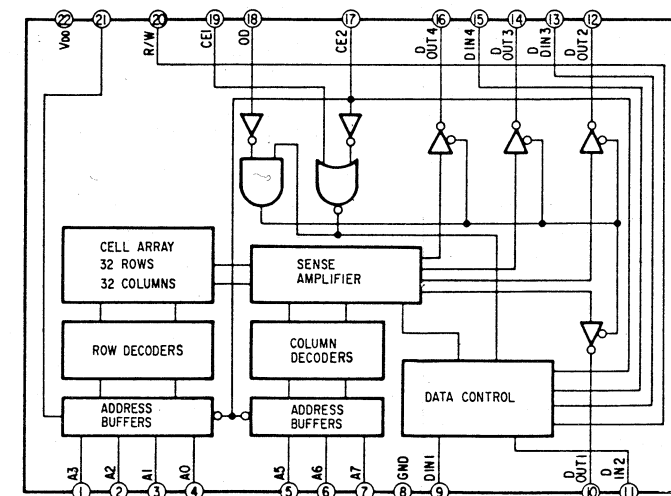
TC4093BP



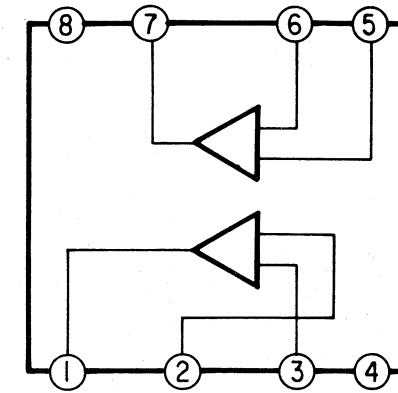
TC40HI48P



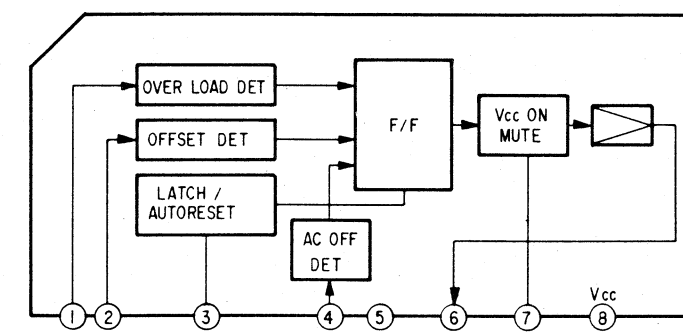
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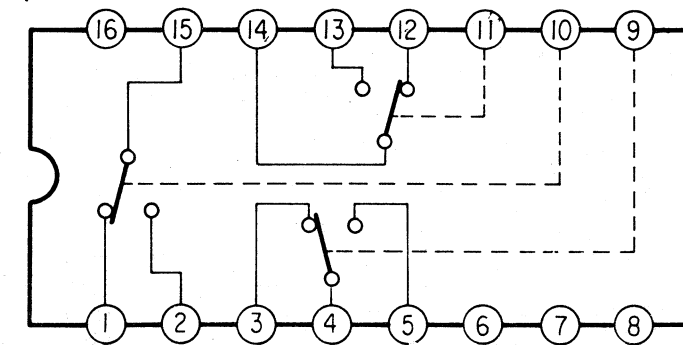
TL072CP



μPCI237H



μPD4053BC



SECTION 5

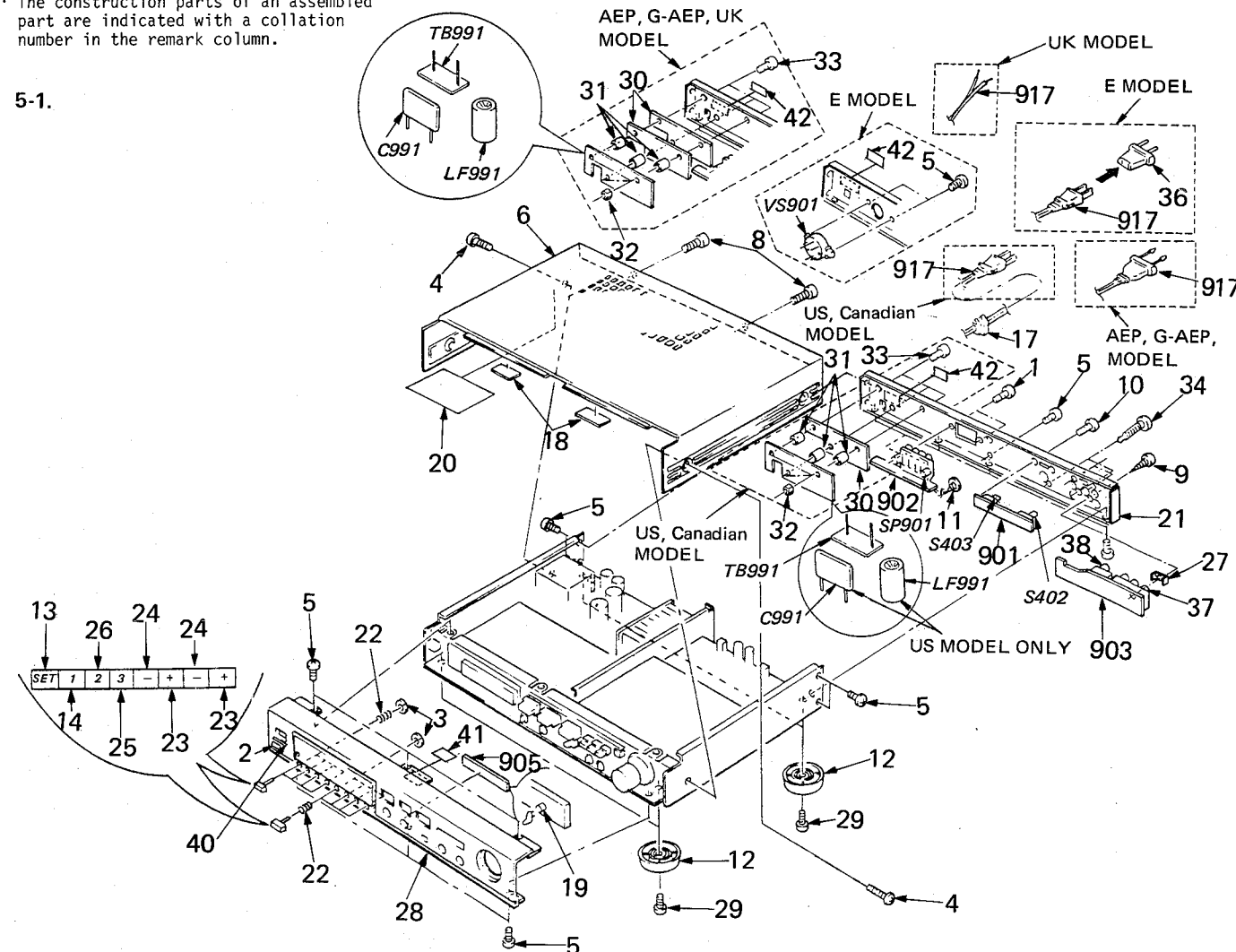
EXPLODED VIEWS AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

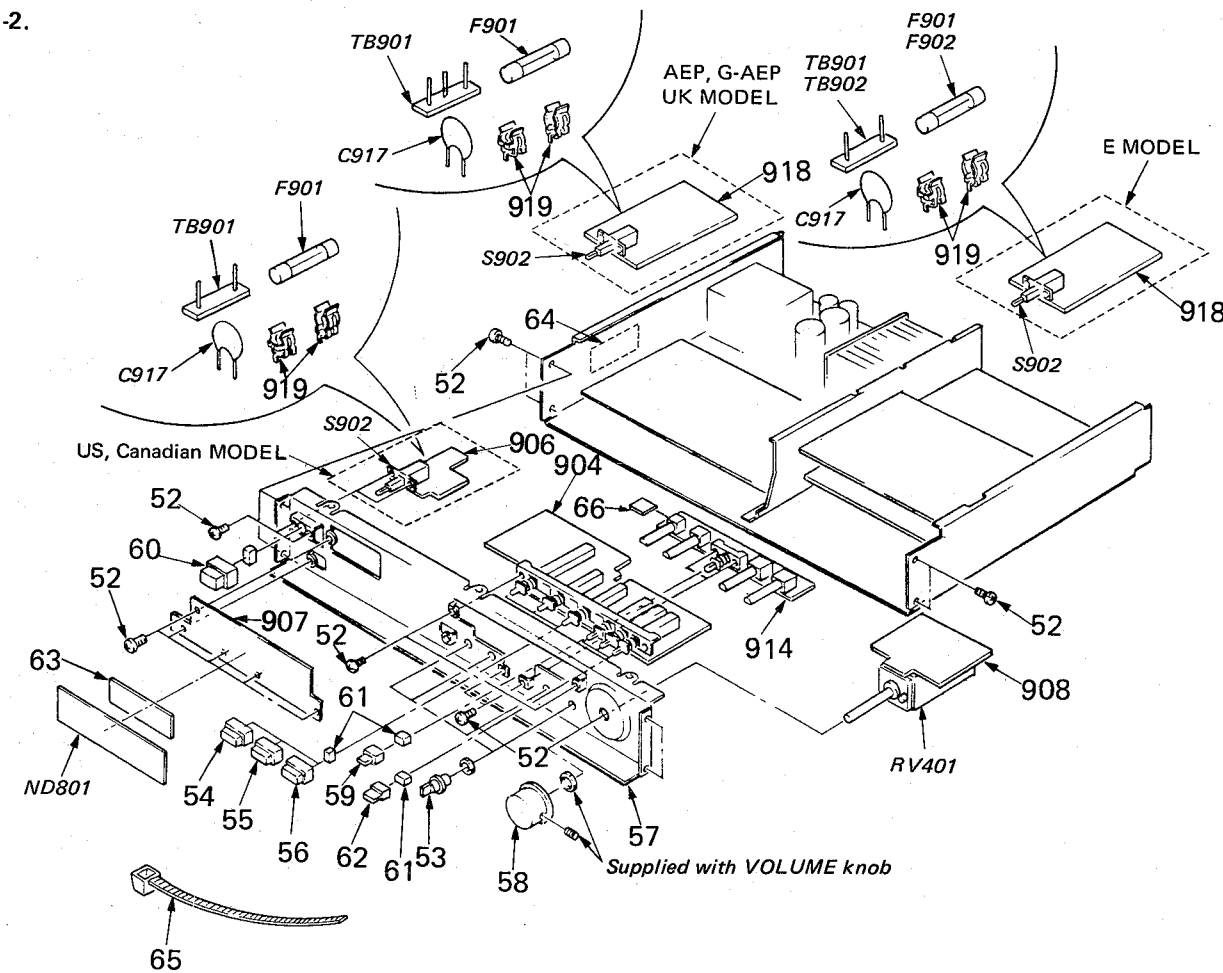
Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		34	3-703-473-00	SCREW, TERMINAL	
2	3-703-710-41	STICKER, SONY SYMBOL (12)		36	A.1-526-565-23	(E)...PLUG ADAPTOR, AC	
3	4-862-338-00	RING, STOPPER		40	3-701-690-01	(UK)...LABEL (MADE IN JAPAN)	
4	4-889-321-11	SCREW		41	3-703-081-21	(UK)...LABEL (SIDE), SUB CAUTION	
5	7-685-751-09	SCREW +BVTT 3X6 (S)			*3-703-680-00	(US)...LABEL, CAUTION, SUB, NEW UL	
6	4-915-424-01	CASE		42	4-915-436-01	(UK).....LABEL, MODEL NUMBER	
8	3-703-108-21	SCREW +BY 3X6, S TIGHT			4-915-437-01	(Canadian)...LABEL, MODEL NUMBER	
9	4-904-486-11	SCREW (F.U), GROUND			*4-915-438-01	(US).....LABEL, MODEL NUMBER (U2)	
10	7-621-284-00	SCREW +P 2.6X4			4-915-439-01	(E).....LABEL, MODEL NUMBER	
11	7-623-508-01	LUG, 3			4-915-440-01	(AEP).....LABEL, MODEL NUMBER	
12	X-4886-009-1	FOOT ASSY			4-915-440-11	(AEP).....LABEL, MODEL NUMBER	
13	4-915-406-11	BUTTON (A), SQUARE			4-915-441-01	(G-AEP).....LABEL, MODEL NUMBER	
14	4-915-406-01	BUTTON (A), SQUARE		901	*1-618-700-13	PC BOARD, SLIDE SWITCH	
17	3-703-244-00	(US,Canadian,AEP,G-AEP,UK)		902	*1-618-707-13	PC BOARD, SPEAKER TERMINAL	
		...BUSHING (2104), CORD		903	*1-618-698-13	PC BOARD, PIN JACK	
	3-703-571-12	(E).....BUSHING S(4516), CORD		905	*1-618-701-13	PC BOARD, LED	
18	3-831-441-XX	CUSHION, SPEAKER		917	A.1-555-701-00	(US,Canadian)...CORD, POWER	
19	3-305-651-00	RETAINER, LED			A.1-555-795-11	(AEP,G-AEP)....CORD, POWER	
20	3-831-441-XX	DAMPER			A.1-556-035-11	(UK).....CORD, POWER	
					A.1-556-091-11	(E).....CORD, POWER	
21	4-915-415-11	(E).....PLATE, JACK		C991	A.1-130-680-00	(US).....FILM 0.1MF 20% 125V	
	*4-915-415-22	(US,Canadian,AEP,G-AEP,UK)...PLATE, JACK		C991	A.1-130-710-11	(AEP,G-AEP,UK)...FILM 0.1MF 20% 250V	
22	4-915-427-01	SPRING, COMPRESSION		CNJ401	1-563-022-11	JACK, PIN 6P (LINE IN/OUT)	
23	4-915-407-11	BUTTON (B), SQUARE		CNJ601	1-563-202-21	JACK, PIN 1P (CENTER OUT)	
24	4-915-407-01	BUTTON (B), SQUARE		LF991A	1-421-580-00	(US)....TRANSFORMER, LINE FILTER (LFT)	
25	4-915-406-31	BUTTON (A), SQUARE		LF991A	1-421-340-11	(AEP,G-AEP,UK)...TRANSFORMER, LINE FILTER (LFT)	
26	4-915-406-21	BUTTON (A), SQUARE		S402	1-553-164-00	SWITCH, SLIDE (SURROUND OUT POLARITY)	
27	*4-904-485-01	PLATE (F.U), GROUND		S403	1-553-164-00	SWITCH, SLIDE (LEVEL)	
28	X-4915-402-1	F-PANEL		SP901	1-536-706-00	TERMINAL BOARD (SP)	
29	7-682-162-09	SCREW +P 4X10		TB991	*1-535-139-00	(US,Canadian,AEP,G-AEP,UK) ...BASE POST 19MM (10MM PITCH) 2P	
30	*4-915-435-01	(US,Canadian,AEP,G-AEP,UK) PLATE (B), INSULATING		VS901A	1-526-576-31	(E)...VOLTAGE SELECTOR	
31	3-002-407-08	(US,Canadian,AEP,G-AEP,UK)...COLLAR					
32	7-684-023-04	(US,Canadian,AEP,G-AEP,UK)...N 3, TYPE 2					
33	7-682-150-09	(US,Canadian,AEP,G-AEP,UK)...SCREW +P 3X14					

SDP-505ES SDP-505ES

5-2.



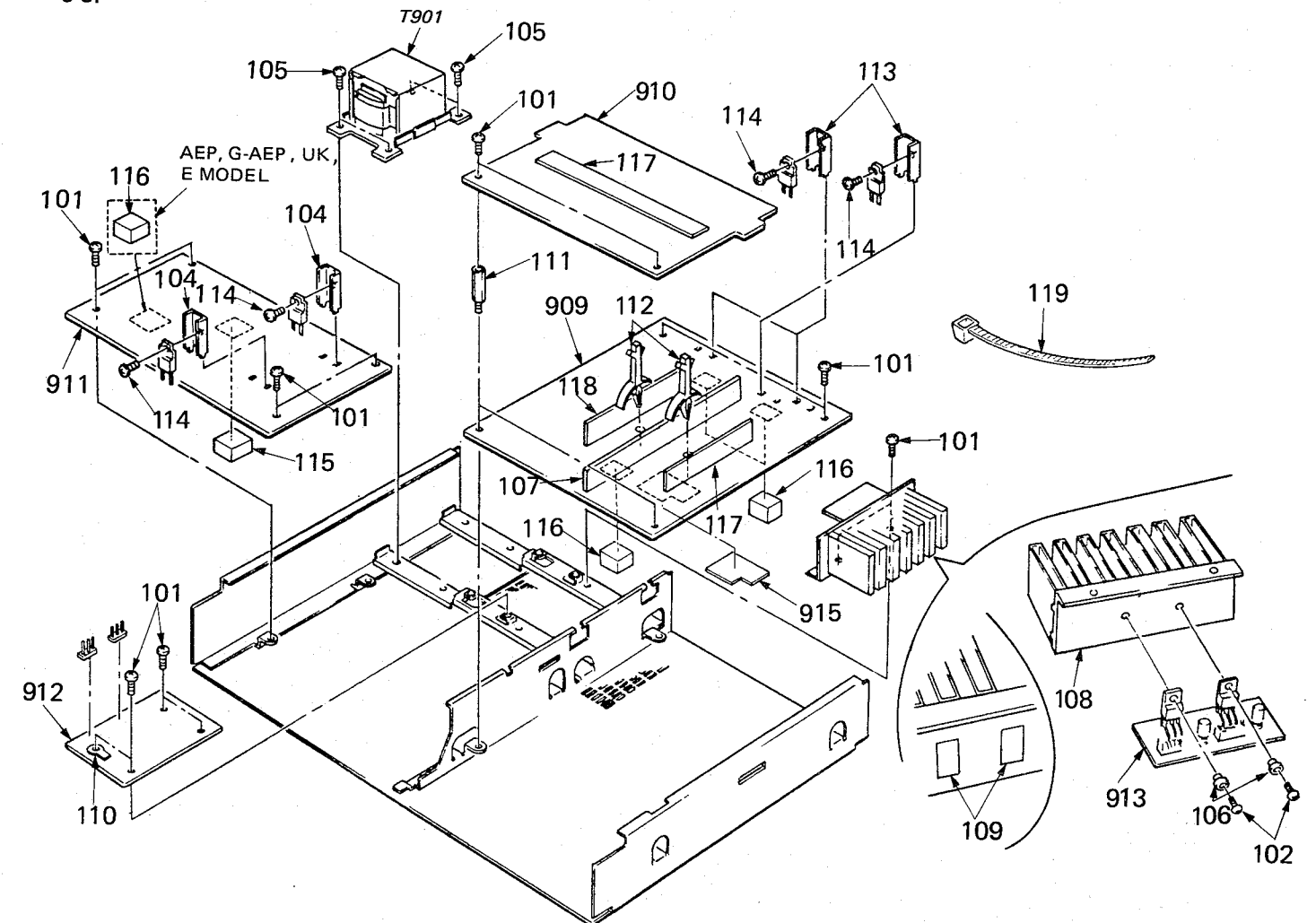
The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remarks
52	7-685-751-09	SCREW +BVT 3X6 (S)	
53	4-908-045-01	KNOB, ROUND	
54	4-908-046-11	KNOB, SQUARE	
55	4-908-046-21	KNOB, SQUARE	
56	4-908-046-31	KNOB, SQUARE	
57	*4-915-416-01	CHASSIS, FRONT	
58	4-915-405-01	KNOB, VOLUME	
59	4-915-403-01	KNOB (A), PUSH	
60	4-908-046-01	KNOB, SQUARE	
61	*4-864-307-00	RING	
62	4-915-404-01	KNOB (B), PUSH	
63	*4-915-409-01	CUSHION, FL	
64	3-703-044-26	LABEL, CAUTION	
65	3-655-653-21	BAND (TAITON), BINDING	
66	9-911-815-02	CUSHION	
904	*1-618-705-12	PC BOARD, MODE SWITCH	
906	*1-618-702-13	(US,Canadian)...PC BOARD, POWER SWITCH	
907	*1-618-697-13	PC BOARD, INDICATOR	

No.	Part No.	Description	Remarks
908	*1-618-706-12	PC BOARD, MASTER VOLUME	
914	*1-618-699-13	PC BOARD, VOLUME	
918	1-619-507-13	(AEP,G-AEP,UK,E)...PC BOARD, POWER SWITCH	
919	1-533-183-11	HOLDER, FUSE	
C917	1-161-743-00	CERAMIC 0.0047MF 400V	
F901	Δ 1-532-285-11	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG	
F901	Δ 1-532-744-11	(US,Canadian)...FUSE, GLASS TUBE	
F902	Δ 1-532-285-11	(E)...FUSE, TIME-LAG	
ND801	1-519-386-12	INDICATOR TUBE, FLUORESCENT	
RV401	1-237-212-11	RES, VAR, CARBON 50KX2/10KX3 (MASTER VOLUME)	
S902	Δ 1-553-318-00	SWITCH, PUSH (AC POWER) (1 KEY)	
TB901	*1-535-139-00	(US,Canadian,E)...BASE POST 19MM (10MM PITCH) 2P	
TB901	1-535-140-11	(AEP,G-AEP,UK)...BASE POST 19MM (10MM PITCH) 3P	
TB902	1-535-139-11	(E)...BASE POST 19MM (10MM PITCH) 2P	

5-3.



The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

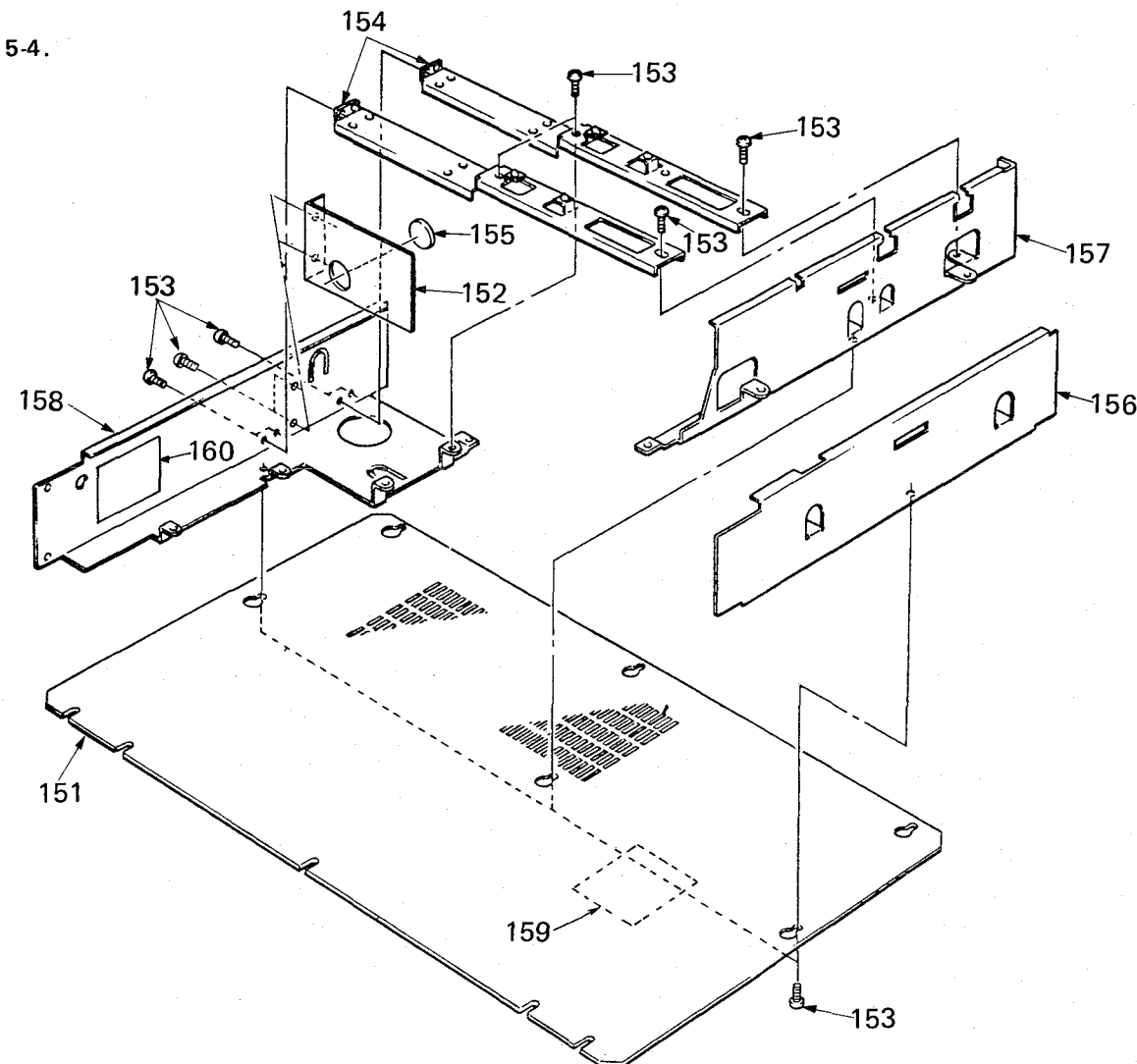
Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

No.	Part No.	Description	Remarks
101	7-685-751-09	SCREW +BVT 3X6 (S)	
102	7-682-548-04	SCREW +P 3X8	
104	*3-309-144-01	HEAT SINK	
105	7-682-559-04	SCREW +B 4X5	
106	2-371-561-00	BUSHING (P), INSULATING	
107	*4-908-950-01	REINFORCEMENT (A), PWB	
108	*4-915-414-01	HEAT SINK	
109	4-912-158-01	SHEET (A), INSULATING	
110	4-870-539-00	PLATE, GROUND	
111	*4-915-408-01	SUPPORT	
112	*4-875-735-00	SUPPORT, PC	
113	*3-312-615-11	HEAT SINK	
114	2-259-121-00	SCREW, TR	
115	*4-915-429-01	CUSHION (A), P	

No.	Part No.	Description	Remarks
116	*4-915-430-01	CUSHION (B), P	
117	*1-560-242-71	BUS BAR 6P	
118	*1-560-242-31	BUS BAR 5P	
119	3-655-653-21	BAND (TAITON), BINDING	
909	*A-4410-322-A	MOUNTED PCB, A/D.D/A	
910	*A-4358-176-A	MOUNTED PCB, ANALOG	
911	*A-4375-280-A	MOUNTED PCB, DIGITAL	
912	*1-618-703-12	PC BOARD, POWER AMPLIFIER	
913	*1-618-708-12	PC BOARD, POWER IC	
915	*1-619-468-13	PC BOARD, SAMPLE & HOLD	
T901	Δ 1-448-627-11	(US,Canadian)...TRANSFORMER, POWER	
T901	Δ 1-448-628-11	(AEP,G-AEP,UK)...TRANSFORMER, POWER	
T901	Δ 1-448-629-11	(E)...TRANSFORMER, POWER	

SECTION 6
ELECTRICAL PARTS LIST

5-4.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	*X-4915-403-1	PLATE ASSY, BOTTOM		156	*4-915-418-01	PLATE, SIDE, RIGHT	
152	*4-915-433-01	PLATE, SHIELD		157	*4-915-420-01	PLATE, RELAY	
153	7-685-751-09	SCREW +BVT 3X6 (S)		158	*4-915-419-01	PLATE, SIDE, LEFT	
154	*4-915-412-01	BRACKET, TRANSFORMER		159	*4-915-434-01	INSULATOR	
155	*4-915-432-01	BUSHING, RUBBER		160	4-915-442-01	(AEP,G-AEP,UK,E)...INSULATOR (C) PrC-H	

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	*1-618-700-13	PC BOARD, SLIDE SWITCH
902	*1-618-707-13	PC BOARD, SPEAKER TERMINAL
903	*1-618-698-13	PC BOARD, PIN JACK
904	*1-618-705-12	PC BOARD, MODE SWITCH
905	*1-618-701-13	PC BOARD, LED
906	*1-618-702-13	(US,Canadian)...PC BOARD, POWER SWITCH
907	*1-618-697-13	PC BOARD, INDICATOR
908	*1-618-706-12	PC BOARD, MASTER VOLUME
909	*A-4410-322-A	MOUNTED PCB, A/D.D/A
910	*A-4358-176-A	MOUNTED PCB, ANALOG
911	*A-4375-280-A	MOUNTED PCB, DIGITAL
912	*1-618-703-12	PC BOARD, POWER AMPLIFIER
913	*1-618-708-12	PC BOARD, POWER IC
914	*1-618-699-13	PC BOARD, VOLUME
915	*1-619-468-13	PC BOARD, SAMPLE & HOLD
917	A.1-555-701-00	(US,Canadian)...CORD, POWER
	A.1-555-795-11	(AEP,G-AEP)...CORD, POWER
	A.1-556-035-11	(UK)...CORD, POWER
	A.1-556-091-11	(E)...CORD, POWER
918	1-619-507-13	(AEP,G-AEP,UK,E)...PC BOARD, POWER SWITCH
919	1-533-183-11	HOLDER, FUSE
BATT701	1-528-120-00	BATTERY, LITHIUM (CR-2025)
C101	1-136-157-00	FILM 0.022MF 5% 50V
C102	1-162-286-31	CERAMIC 220PF 10% 50V
C103	1-123-369-00	ELECT 4.7MF 20% 50V
C104	1-123-330-00	ELECT 22MF 20% 25V
C105	1-103-731-00	POLYSTYRENE 0.0018MF 5% 50V
C106	1-162-282-31	CERAMIC 100PF 10% 50V
C107	1-162-282-31	CERAMIC 100PF 10% 50V
C108	1-123-356-00	ELECT 10MF 20% 50V
C109	1-162-207-31	CERAMIC 22PF 5% 50V
C110	1-104-081-00	POLYSTYRENE 0.0015MF 5% 50V
C111	1-123-330-00	ELECT 22MF 20% 25V
C112	1-103-709-00	POLYSTYRENE 220PF 5% 50V
C113	1-162-301-31	CERAMIC 0.0015MF 30% 16V
C114	1-162-301-31	CERAMIC 0.0015MF 30% 16V
C115	1-123-318-00	ELECT 33MF 20% 16V
C116	1-162-286-31	CERAMIC 220PF 10% 50V
C117	1-110-200-00	MYLAR 0.0027MF 5% 50V
C251	1-104-077-00	POLYSTYRENE 0.001MF 5% 50V
C301	1-123-330-00	ELECT 22MF 20% 25V
C302	1-123-330-00	ELECT 22MF 20% 25V
C303	1-123-330-00	ELECT 22MF 20% 25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C304	1-123-330-00	ELECT 22MF 20% 25V
C305	1-123-330-00	ELECT 22MF 20% 25V
C306	1-123-330-00	ELECT 22MF 20% 25V
C307	1-123-324-00	ELECT 1000MF 20% 16V
C308	1-123-333-00	ELECT 100MF 20% 16V
C309	1-123-322-00	ELECT 330MF 20% 16V
C310	1-123-322-00	ELECT 330MF 20% 16V
C311	1-123-330-00	ELECT 22MF 20% 25V
C312	1-123-330-00	ELECT 22MF 20% 25V
C313	1-123-338-00	ELECT 2200MF 20% 25V
C314	1-123-338-00	ELECT 2200MF 20% 25V
C315	1-162-294-31	CERAMIC 0.001MF 10% 50V
C316	1-123-330-00	ELECT 22MF 20% 25V
C317	1-123-356-00	ELECT 10MF 20% 16V
C318	1-161-494-00	CERAMIC 0.022MF 30% 25V
C319	1-162-294-31	CERAMIC 0.001MF 10% 50V
C320	1-162-195-31	CERAMIC 4.7PF 10% 50V
C321	1-162-203-31	CERAMIC 15PF 5% 50V
C322	1-123-356-00	ELECT 10MF 20% 50V
C323	1-123-380-00	ELECT 1MF 20% 50V
C324	1-123-330-00	ELECT 22MF 20% 25V
C325	1-161-494-00	CERAMIC 0.022MF 30% 25V
C326	1-123-356-00	ELECT 10MF 20% 50V
C327	1-123-356-00	ELECT 10MF 20% 50V
C328	1-162-215-31	CERAMIC 47PF 5% 50V
C329	1-162-205-31	CERAMIC 18PF 5% 50V
C330	1-162-215-31	CERAMIC 47PF 5% 50V
C331	1-162-294-31	CERAMIC 0.001MF 10% 50V
C332	1-123-330-00	ELECT 22MF 20% 25V
C333	1-161-494-00	CERAMIC 0.022MF 30% 25V
C334	1-123-356-00	ELECT 10MF 20% 50V
C335	1-123-330-00	ELECT 22MF 20% 25V
C336	1-123-330-00	ELECT 22MF 20% 25V
C337	1-123-330-00	ELECT 22MF 20% 25V
C338	1-123-330-00	ELECT 22MF 20% 25V
C339	1-123-330-00	ELECT 22MF 20% 25V
C340	1-123-330-00	ELECT 22MF 20% 25V
C341	1-123-330-00	ELECT 22MF 20% 25V
C345	1-123-321-00	ELECT 220MF 20% 16V
C346	1-123-321-00	ELECT 220MF 20% 16V
C347	1-162-203-31	CERAMIC 15PF 5% 50V
C348	1-162-203-31	CERAMIC 15PF 5% 50V
C349	1-162-294-31	CERAMIC 0.001MF 10% 50V
C350	1-161-055-00	CERAMIC 0.022MF 10% 25V
C407	1-123-369-00	ELECT 4.7MF 20% 25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C408	1-123-318-00	ELECT	33MF	20%	16V
C411	1-123-369-00	ELECT	4.7MF	20%	25V
C412	1-162-203-31	CERAMIC	15PF	5%	50V
C413	1-123-356-00	ELECT	10MF	20%	25V
C414	1-123-380-00	ELECT	1MF	20%	50V
C415	1-162-304-31	CERAMIC	0.0047MF	30%	16V
C416	1-108-591-00	MYLAR	0.033MF	5%	50V
C417	1-123-380-00	ELECT	1MF	20%	50V
C418	1-123-380-00	ELECT	1MF	20%	50V
C419	1-123-356-00	ELECT	10MF	20%	25V
C421	1-108-595-00	MYLAR	0.047MF	5%	50V
C422	1-130-774-00	FILM	0.33MF	5%	63V
C423	1-130-768-00	FILM	0.1MF	5%	63V
C425	1-123-369-00	ELECT	4.7MF	20%	25V
C426	1-123-356-00	ELECT	10MF	20%	25V
C429	1-162-282-31	CERAMIC	100PF	10%	50V
C451	1-162-288-11	(G-AEP)...CERAMIC	330PF	10%	50V
C452	1-162-288-11	(G-AEP)...CERAMIC	330PF	10%	50V
C453	1-162-288-11	(G-AEP)...CERAMIC	330PF	10%	50V
C601	1-123-356-00	ELECT	10MF	20%	25V
C602	1-123-380-00	ELECT	1MF	20%	50V
C603	1-123-356-00	ELECT	10MF	20%	25V
C604	1-123-380-00	ELECT	1MF	20%	50V
C605	1-123-308-00	ELECT	220MF	20%	6.3V
C606	1-162-302-31	CERAMIC	0.0022MF	30%	16V
C607	1-162-292-31	CERAMIC	680PF	10%	50V
C608	1-162-282-31	CERAMIC	100PF	10%	50V
C609	1-108-599-00	MYLAR	0.068MF	5%	50V
C610	1-123-356-00	ELECT	10MF	20%	25V
C611	1-123-369-00	ELECT	4.7MF	20%	25V
C612	1-123-356-00	ELECT	10MF	20%	25V
C613	1-123-369-00	ELECT	4.7MF	20%	25V
C614	1-123-332-00	ELECT	47MF	20%	16V
C615	1-123-308-00	ELECT	220MF	20%	10V
C616	1-108-589-00	MYLAR	0.027MF	5%	50V
C617	1-123-321-00	ELECT	220MF	20%	16V
C618	1-123-321-00	ELECT	220MF	20%	16V
C651	1-162-288-11	(G-AEP)...CERAMIC	330PF	10%	50V
C701	1-123-326-00	ELECT	3300MF	20%	16V
C702	1-123-326-00	ELECT	3300MF	20%	16V
C703	1-123-325-00	ELECT	2200MF	20%	16V
C704	1-123-333-00	ELECT	100MF	20%	25V
C705	1-123-325-00	ELECT	2200MF	20%	10V
C706	1-123-311-00	ELECT	1000MF	20%	10V
C707	1-123-361-00	ELECT	220MF	20%	50V
C708	1-123-361-00	ELECT	220MF	20%	50V
C709	1-123-332-00	ELECT	47MF	20%	16V
C710	1-123-332-00	ELECT	47MF	20%	16V
C711	1-123-308-00	ELECT	220MF	20%	6.3V
C712	1-162-207-31	CERAMIC	22PF	5%	50V
C713	1-162-207-31	CERAMIC	22PF	5%	50V
C714	1-123-369-00	ELECT	4.7MF	20%	25V
C719	1-123-369-00	ELECT	4.7MF	20%	25V
C720	1-162-306-31	CERAMIC	0.01MF	30%	16V
C721	1-162-306-31	CERAMIC	0.01MF	30%	16V
C722	1-162-306-31	CERAMIC	0.01MF	30%	16V
C723	1-162-289-31	CERAMIC	390PF	10%	50V
C724	1-162-306-31	CERAMIC	0.01MF	30%	16V
C725	1-161-055-00	CERAMIC	0.022MF	10%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C726	1-162-306-31	CERAMIC	0.01MF	30%	16V
C901	1-124-362-00	ELECT	4700MF	20%	42V
C902	1-124-362-00	ELECT	4700MF	20%	42V
C903	1-123-338-00	ELECT	2200MF	20%	25V
C904	1-123-338-00	ELECT	2200MF	20%	25V
C905	1-123-369-00	ELECT	4.7MF	20%	50V
C906	1-123-369-00	ELECT	4.7MF	20%	25V
C907	1-123-356-00	ELECT	10MF	20%	50V
C908	1-130-768-00	FILM	0.1MF	5%	63V
C910	1-108-593-00	MYLAR	0.039MF	5%	50V
C911	1-106-172-00	MYLAR	0.001MF	5%	50V
C912	1-123-308-00	ELECT	220MF	20%	6.3V
C914	1-123-318-00	ELECT	33MF	20%	6.3V
C915	1-130-789-00	FILM	1MF	5%	100V
C916	1-106-206-00	MYLAR	0.027MF	5%	100V
C917	1-161-743-00	CERAMIC	0.0047MF	400V	
C918	1-108-591-00	MYLAR	0.033MF	5%	50V
C919	1-162-296-11	(G-AEP)...CERAMIC	2200PF	30%	16V
C919	1-162-289-31	(US,Canadian,AEP,UK,E) ...CERAMIC	390PF	10%	50V
C920	1-161-323-00	CAP, CERAMIC	0.001MF	B	
C921	1-161-323-00	CAP, CERAMIC	0.001MF	B	
C922	1-162-294-31	CERAMIC	0.001MF	10%	50V
C931	1-162-294-11	(G-AEP)...CERAMIC	1000PF	10%	50V
C932	1-162-294-11	(G-AEP)...CERAMIC	1000PF	10%	50V
C991	1-130-710-11	(AEP,G-AEP,UK)...FILM	0.1MF	20%	250V
C991	1-130-680-00	(US).....FILM	0.1MF	20%	125V
CMP901	1-560-602-00	PIN, CONNECTOR	3P		
CN701	*1-562-249-00	SOCKET, CONNECTOR	4P		
CN702	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN703	*1-562-250-00	SOCKET, CONNECTOR	5P		
CN704	*1-562-249-00	SOCKET, CONNECTOR	4P		
CN705	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN706	*1-562-249-00	SOCKET, CONNECTOR	4P		
CN707	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN708	*1-562-249-00	SOCKET, CONNECTOR	4P		
CN709	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN710	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN711	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN712	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN714	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN715	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN716	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN717	*1-562-250-00	SOCKET, CONNECTOR	5P		
CN718	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN719	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN721	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN722	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN723	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN724	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN725	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN726	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN727	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN730	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN731	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN734	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN735	*1-562-327-00	SOCKET, CONNECTOR	3P		
CN736	*1-562-327-00	SOCKET, CONNECTOR	3P		

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
CN740	*1-562-249-00	SOCKET, CONNECTOR 4P
CN742	*1-562-327-00	SOCKET, CONNECTOR 3P
CN743	*1-562-327-00	SOCKET, CONNECTOR 3P
CN744	*1-562-327-00	SOCKET, CONNECTOR 3P
CN747	*1-562-327-00	SOCKET, CONNECTOR 3P
CN748	*1-562-249-00	SOCKET, CONNECTOR 4P
CNJ401	1-563-022-11	JACK, PIN 6P (LINE IN/OUT)
CNJ601	1-563-202-21	JACK, PIN 1P (CENTER OUT)
CNP301	*1-560-603-00	PIN, CONNECTOR 4P
CNP302	*1-560-602-00	PIN, CONNECTOR 3P
CNP303	*1-564-505-11	PLUG, CONNECTOR 2P
CNP401	*1-564-506-11	PLUG, CONNECTOR 3P
CNP402	*1-564-506-11	PLUG, CONNECTOR 3P
CNP403	*1-564-506-11	PLUG, CONNECTOR 3P
CNP404	*1-564-506-11	PLUG, CONNECTOR 3P
CNP405	*1-564-506-11	PLUG, CONNECTOR 3P
CNP406	*1-560-602-00	PIN, CONNECTOR 3P
CNP408	*1-564-506-11	PLUG, CONNECTOR 3P
CNP409	*1-560-602-00	PIN, CONNECTOR 3P
CNP410	*1-560-602-00	PIN, CONNECTOR 3P
CNP411	*1-560-603-00	PIN, CONNECTOR 4P
CNP412	*1-564-506-11	PLUG, CONNECTOR 3P
CNP413	*1-564-506-11	PLUG, CONNECTOR 3P
CNP506	*1-560-602-00	PIN, CONNECTOR 3P
CNP508	*1-564-506-11	PLUG, CONNECTOR 3P
CNP509	*1-560-602-00	PIN, CONNECTOR 3P
CNP510	*1-560-602-00	PIN, CONNECTOR 3P
CNP511	*1-560-603-00	PIN, CONNECTOR 4P
CNP512	*1-564-506-11	PLUG, CONNECTOR 3P
CNP601	*1-564-505-11	PLUG, CONNECTOR 2P
CNP602	*1-564-506-11	PLUG, CONNECTOR 3P
CNP603	*1-564-506-11	PLUG, CONNECTOR 3P
CNP604	*1-564-506-11	PLUG, CONNECTOR 3P
CNP605	*1-564-507-41	PLUG, CONNECTOR 4P
CNP606	*1-564-507-31	PLUG, CONNECTOR 4P
CNP607	*1-564-507-11	PLUG, CONNECTOR 4P
CNP608	*1-564-506-11	PLUG, CONNECTOR 3P
CNP609	*1-564-505-11	PLUG, CONNECTOR 2P
CNP610	*1-564-505-31	PLUG, CONNECTOR 2P
CNP611	*1-560-060-00	PIN, CONNECTOR 2P
CNP611	*1-564-505-41	PLUG, CONNECTOR 2P
CNP612	*1-564-505-21	PLUG, CONNECTOR 2P
CNP613	*1-560-708-00	PIN, CONNECTOR 2P
CNP614	*1-560-708-00	PIN, CONNECTOR 2P
CNP701	*1-560-603-00	PIN, CONNECTOR 4P
CNP702	*1-560-602-00	PIN, CONNECTOR 3P
CNP703	*1-560-604-00	PIN, CONNECTOR 5P
CNP704	*1-560-603-00	PIN, CONNECTOR 4P
CNP705	*1-560-602-00	PIN, CONNECTOR 3P
CNP706	*1-560-603-00	PIN, CONNECTOR 4P
CNP707	*1-560-708-00	PIN, CONNECTOR 2P
CNP708	*1-560-603-00	PIN, CONNECTOR 4P
CNP709	*1-560-602-00	PIN, CONNECTOR 3P
CNP710	*1-560-708-00	PIN, CONNECTOR 2P
CNP711	*1-560-708-00	PIN, CONNECTOR 2P
CNP902	*1-560-602-00	PIN, CONNECTOR 3P

D101	8-719-910-65	DIODE HZ6B2L
D102	8-719-107-94	DIODE 1SS202-1
D103	8-719-910-65	DIODE HZ6B2L

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D201	8-719-910-65	DIODE HZ6B2L
D202	8-719-107-94	DIODE 1SS202-1
D203	8-719-910-65	DIODE HZ6B2L
D251	8-719-991-34	DIODE 1SS133T-72
D301	8-719-910-65	DIODE HZ6B2L
D302	8-719-910-65	DIODE HZ6B2L
D303	8-719-910-65	DIODE HZ6B2L
D304	8-719-172-11	DIODE HZ11A1L
D305	8-719-910-65	DIODE HZ6B2L
D306	8-719-107-94	DIODE 1SS202-1
D601	8-719-902-12	DIODE HZ11A2L
D602	8-719-107-94	DIODE 1SS202-1
D603	8-719-313-12	DIODE SEL1312G
D604	8-719-313-12	DIODE SEL1312G
D605	8-719-311-12	DIODE SEL1112R
D606	8-719-107-94	DIODE 1SS202-1
D607	8-719-311-12	DIODE SEL1112R
D701	8-719-502-20	DIODE S2VB20
D702	8-719-200-02	DIODE 10E2
D703	8-719-200-02	DIODE 10E2
D704	8-719-922-73	DIODE HZ27-3L
D705	8-719-910-61	DIODE HZ6A1L
D706	8-719-200-02	DIODE 10E2
D707	8-719-200-02	DIODE 10E2
D708	8-719-991-34	DIODE 1SS133T-72
D709	8-719-107-94	DIODE 1SS202-1
D710	8-719-107-94	DIODE 1SS202-1
D711	8-719-107-94	DIODE 1SS202-1
D712	8-719-914-12	DIODE HZ4BLL
D713	8-719-107-94	DIODE 1SS202-1
D714	8-719-107-94	DIODE 1SS202-1
D715	8-719-107-94	DIODE 1SS202-1
D716	8-719-107-94	DIODE 1SS202-1
D717	8-719-107-94	DIODE 1SS202-1
D718	8-719-107-94	DIODE 1SS202-1
D719	8-719-107-94	DIODE 1SS202-1
D720	8-719-107-94	DIODE 1SS202-1
D721	8-719-107-94	DIODE 1SS202-1
D722	8-719-107-94	DIODE 1SS202-1
D723	8-719-107-94	DIODE 1SS202-1
D724	8-719-107-94	DIODE 1SS202-1
D725	8-719-107-94	DIODE 1SS202-1
D901	8-719-502-20	DIODE S2VB20
D902	8-719-502-20	DIODE S2VB20
D903	8-719-200-02	DIODE 10E2
D904	8-719-201-01	DIODE 10DF1
D905	8-719-201-01	DIODE 10DF1
D906	8-719-201-01	DIODE 10DF1
D907	8-719-201-01	DIODE 10DF1
D908	8-719-991-34	DIODE 1SS133T-72
D909	8-719-991-34	DIODE 1SS133T-72

F901	1-532-285-11	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG
F901	1-532-744-11	(US,Canadian)...FUSE, GLASS TUBE

F902	1-532-285-11	(E).....FUSE, TIME-LAG
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The components identified by shading and mark **A** are

SDP-505ES SDP-505ES

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC101	8-759-745-60	IC NJM4560D
IC102	8-759-910-83	IC TL072ACP
IC103	8-759-910-83	IC TL072ACP
IC201	8-759-745-60	IC NJM4560D
IC202	8-759-910-83	IC TL072ACP
IC203	8-759-910-83	IC TL072ACP
IC251	8-759-910-83	IC TL072ACP
IC301	8-759-745-60	IC NJM4560D
IC302	8-752-001-80	IC CX20018
IC303	8-752-001-70	IC CX20017
IC304	8-759-140-53	IC UPD4053BC
IC305	8-759-700-11	IC NJM78M05A
IC306	8-759-700-20	IC NJM79M05A
IC308	8-759-001-05	IC MC74HC04N
IC402	8-759-745-60	IC NJM4560D
IC404	8-759-745-60	IC NJM4560D
IC405	8-759-745-60	IC NJM4560D
IC406	8-759-927-57	IC NE657N
IC407	8-759-745-60	IC NJM4560D
IC408	8-759-745-60	IC NJM4560D
IC601	8-759-745-60	IC NJM4560D
IC602	8-759-745-60	IC NJM4560D
IC603	8-759-601-02	IC M5218P
IC604	8-759-240-53	IC TC4053BP
IC605	8-759-917-42	IC IR2E31A
IC606	8-759-700-62	IC NJM4562D
IC701	8-759-700-47	IC CX10035
IC702	8-759-800-54	IC CXP5016H-118S
IC703	8-759-927-77	IC CXD1079Q
IC704	8-759-927-60	IC MB81416-10P
IC705	8-759-927-60	IC MB81416-10P
IC706	8-759-927-60	IC MB81416-10P
IC707	8-759-927-60	IC MB81416-10P
IC708	8-759-201-33	IC TC5501P
IC709	8-759-645-16	IC M54516P
IC710	8-759-200-25	IC TC40H148P
IC711	8-759-240-93	IC TC4093BP
IC901A	8-759-922-40	IC LM1875
IC902	8-759-101-23	IC UPC1237H
IC951A	8-759-922-40	IC LM1875
L301	1-408-902-21	MICRO INDUCTOR 0.47UH
L302	1-408-551-00	MICRO INDUCTOR 1UH
L701	1-408-088-00	MICRO INDUCTOR 220UH
L702	1-408-088-00	MICRO INDUCTOR 220UH
L901	*1-420-872-00	COIL, AIR CORE
L951	*1-420-872-00	COIL, AIR CORE
LF991A	1-421-340-11	(AEP,G-AEP,UK)...TRANSFORMER, LINE FILTER (LFT)
LF991A	1-421-580-00	(US)...TRANSFORMER, LINE FILTER (LFT)
LPF101	1-464-637-11	FILTER UNIT, LOW PASS
LPF102	1-464-638-11	FILTER UNIT, LOW PASS
LPF201	1-464-637-11	FILTER UNIT, LOW PASS
LPF202	1-464-638-11	FILTER UNIT, LOW PASS
ND801	1-519-386-12	INDICATOR TUBE, FLUORESCENT
Q101	8-769-162-00	TRANSISTOR 2SK152-2
Q102	8-769-162-00	TRANSISTOR 2SK152-2
Q201	8-769-162-00	TRANSISTOR 2SK152-2
Q202	8-769-162-00	TRANSISTOR 2SK152-2

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q251	8-769-162-00	TRANSISTOR 2SK152-2
Q301	8-729-141-43	TRANSISTOR 2SD414
Q302	8-729-606-33	TRANSISTOR 2SC2603F
Q303	8-729-606-33	TRANSISTOR 2SC2603F
Q304	8-769-042-00	TRANSISTOR 2SK120-2
Q305	8-729-180-93	TRANSISTOR 2SD809
Q306	8-729-154-83	TRANSISTOR 2SB548
Q307	8-729-117-54	TRANSISTOR 2SA1175
Q308	8-729-117-54	TRANSISTOR 2SA1175
Q309	8-769-042-00	TRANSISTOR 2SK120-2
Q601	8-729-107-99	TRANSISTOR 2SC3622A-K
Q602	8-729-900-80	TRANSISTOR DTC114ES
Q603	8-729-900-61	TRANSISTOR DTA114ES
Q604	8-729-900-80	TRANSISTOR DTC114ES
Q605	8-729-612-77	TRANSISTOR 2SA1027R
Q606	8-729-900-65	TRANSISTOR DTA144ES
Q607	8-729-107-99	TRANSISTOR 2SC3622A-K
Q608	8-729-900-80	TRANSISTOR DTC114ES
Q701	8-729-107-25	TRANSISTOR 2SD1585-L
Q702	8-729-111-67	TRANSISTOR 2SB1094-L
Q703	8-729-117-54	TRANSISTOR 2SA1175
Q704	8-729-900-65	TRANSISTOR DTA144ES
Q705	8-729-900-80	TRANSISTOR DTC114ES
Q706	8-729-900-89	TRANSISTOR DTC114ES
Q707	8-729-606-33	TRANSISTOR 2SC2603F
Q708	8-729-117-54	TRANSISTOR 2SA1175
Q709	8-729-900-80	TRANSISTOR DTC114ES
R101	1-249-947-11	CARBON 10K 1% 1/4W
R102	1-249-926-11	CARBON 1.3K 1% 1/4W
R103	1-247-719-11	CARBON 3.3K 1% 1/4W
R104	1-249-469-11	CARBON 100K 1% 1/4W
R105	1-247-725-11	CARBON 10K 1% 1/4W
R106	1-247-725-11	CARBON 10K 1% 1/4W
R107	1-247-163-00	CARBON 22K 1% 1/4W
R108	1-247-725-11	CARBON 10K 1% 1/4W
R109	1-249-947-11	CARBON 10K 1% 1/4W
R110	1-249-919-11	CARBON 680 1% 1/4W
R111	1-247-135-00	CARBON 1.5K 1% 1/4W
R112	1-247-193-00	CARBON 22K 1% 1/4W
R113	1-249-915-11	CARBON 470 1% 1/4W
R114	1-247-713-11	CARBON 1K 1% 1/4W
R115	1-247-193-00	CARBON 22K 1% 1/4W
R116	1-247-719-11	CARBON 3.3K 1% 1/4W
R117	1-249-945-11	CARBON 8.2K 1% 1/4W
R118	1-249-598-11	CARBON 82K 1% 1/4W
R119	1-249-425-11	CARBON 4.7K 5% 1/6W
R120	1-249-839-00	CARBON 2.2K 5% 1/6W
R121	1-249-951-11	CARBON 15K 1% 1/4W
R122	1-249-956-11	CARBON 24K 1% 1/4W
R123	1-249-947-11	CARBON 10K 1% 1/4W
R124	1-249-947-11	CARBON 10K 1% 1/4W
R125	1-249-933-11	CARBON 2.7K 1% 1/4W
R126	1-247-713-11	CARBON 1K 1% 1/4W
R127	1-247-151-00	CARBON 6.8K 1% 1/4W
R130	1-249-469-11	CARBON 100K 1% 1/4W
R131	1-247-702-11	CARBON 150 1% 1/4W
R132	1-249-926-11	CARBON 1.3K 1% 1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R133	1-249-921-11	CARBON 820 1% 1/4W
R134	1-247-719-11	CARBON 3.3K 1% 1/4W
R251	1-249-947-11	CARBON 10K 1% 1/4W
R252	1-247-717-11	CARBON 2.2K 1% 1/4W
R253	1-247-717-11	CARBON 2.2K 1% 1/4W
R254	1-249-947-11	CARBON 10K 1% 1/4W
R255	1-249-425-11	CARBON 4.7K 5% 1/6W
R256	1-249-425-11	CARBON 4.7K 5% 1/6W
R301	1-247-713-11	CARBON 1K 1% 1/4W
R302	1-247-133-00	CARBON 1.2K 1% 1/4W
R303	1-247-133-00	CARBON 1.2K 1% 1/4W
R304	1-247-713-11	CARBON 1K 1% 1/4W
R305	1-247-725-11	CARBON 10K 1% 1/4W
R306	1-247-725-11	CARBON 10K 1% 1/4W
R307	1-249-590-11	CARBON 39K 1% 1/4W
R308	1-247-151-00	CARBON 6.8K 1% 1/4W
R309	1-249-425-11	CARBON 4.7K 5% 1/6W
R310	1-249-417-11	CARBON 1K 5% 1/6W
R311	1-247-718-11	CARBON 2.7K 1% 1/4W
R312	1-249-429-11	CARBON 10K 5% 1/6W
R313	1-249-429-11	CARBON 10K 5% 1/6W
R314	1-249-429-11	CARBON 10K 5% 1/6W
R315	1-249-429-11	CARBON 10K 5% 1/6W
R316	1-249-405-11	CARBON 100 5% 1/6W
R317	1-249-556-11	CARBON 1.5K 1% 1/4W
R318	1-249-589-11	CARBON 36K 1% 1/4W
R319	1-247-151-00	CARBON 6.8K 1% 1/4W
R320	1-249-429-11	CARBON 10K 5% 1/6W
R321	1-247-833-00	CARBON 1.2K 5% 1/6W
R322	1-249-437-11	CARBON 47K 5% 1/6W
R401	1-247-903-00	CARBON 1M 5% 1/6W
R409	1-249-414-11	CARBON 560 5% 1/6W
R410	1-247-883-00	CARBON 150K 5% 1/6W
R411	1-249-405-11	CARBON 100 5% 1/6W
R414	1-249-414-11	CARBON 560 5% 1/6W
R415	1-247-887-00	CARBON 220K 5% 1/6W
R416	1-249-425-11	CARBON 4.7K 5% 1/6W
R417	1-249-433-11	CARBON 22K 5% 1/6W
R418	1-249-417-11	CARBON 1K 5% 1/6W
R419	1-249-429-11	CARBON 10K 5% 1/6W
R420	1-249-423-11	CARBON 3.3K 5% 1/6W
R421	1-247-849-00	CARBON 5.6K 5% 1/6W
R422	1-249-437-11	CARBON 47K 5% 1/6W
R423	1-247-866-00	CARBON 30K 5% 1/6W
R424	1-247-875-00	CARBON 68K 5% 1/6W
R425	1-247-862-00	CARBON 20K 5% 1/6W
R426	1-247-862-00	CARBON 20K 5% 1/6W
R427	1-247-889-00	CARBON 270K 5% 1/6W
R428	1-247-885-00	CARBON 180K 5% 1/6W
R429	1-249-433-11	CARBON 22K 5% 1/6W
R430	1-249-414-11	CARBON 560 5% 1/6W
R431	1-247-887-00	CARBON 220K 5% 1/6W
R432	1-249-429-11	CARBON 10K 5% 1/6W
R433	1-249-429-11	CARBON 10K 5% 1/6W
R434	1-249-405-11	CARBON 100 5% 1/6W
R435	1-249-405-11	CARBON 100 5% 1/6W
R442	1-249-425-11	CARBON 4.7K 5% 1/6W
R443	1-247-823-00	CARBON 470 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R451	1-247-849-11	(G-AEP)...CARBON 330 5% 1/6W
R452	1-247-849-11	(G-AEP)...CARBON 330 5% 1/6W
R453	1-247-849-11	(G-AEP)...CARBON 330 5% 1/6W
R601	1-249-433-11	CARBON 22K 5% 1/6W
R602	1-249-433-11	CARBON 22K 5% 1/6W
R603	1-247-859-00	CARBON 15K 5% 1/6W
R604	1-249-422-11	CARBON 2.7K 5% 1/6W
R605	1-249-429-11	CARBON 10K 5% 1/6W
R606	1-249-425-11	CARBON 4.7K 5% 1/6W
R607	1-249-425-11	CARBON 4.7K 5% 1/6W
R608	1-249-405-11	CARBON 100 5% 1/6W
R609	1-247-815-00	CARBON 220 5% 1/6W
R610	1-247-895-00	CARBON 470K 5% 1/6W
R611	1-249-425-11	CARBON 4.7K 5% 1/6W
R612	1-249-434-11	CARBON 27K 5% 1/6W
R613	1-249-417-11	CARBON 1K 5% 1/6W
R614	1-247-895-00	CARBON 470K 5% 1/6W
R615	1-247-887-00	CARBON 220K 5% 1/6W
R616	1-249-417-11	CARBON 1K 5% 1/6W
R617	1-249-441-11	CARBON 100K 5% 1/6W
R618	1-247-823-00	CARBON 470 5% 1/6W
R619	1-247-903-00	CARBON 1M 5% 1/6W
R620	1-247-891-00	CARBON 330K 5% 1/6W
R621	1-249-441-11	CARBON 100K 5% 1/6W
R622	1-249-435-11	CARBON 33K 5% 1/6W
R623	1-249-417-11	CARBON 1K 5% 1/6W
R624	1-249-405-11	CARBON 100 5% 1/6W
R625	1-249-437-11	CARBON 47K 5% 1/6W
R626	1-249-425-11	CARBON 4.7K 5% 1/6W
R627	1-249-425-11	CARBON 4.7K 5% 1/6W
R628	1-249-405-11	CARBON 100 5% 1/6W
R629	1-249-405-11	CARBON 100 5% 1/6W
R630	1-249-405-11	CARBON 100 5% 1/6W
R631	1-249-405-11	CARBON 100 5% 1/6W
R632	1-247-839-00	CARBON 2.2K 5% 1/6W
R633	1-247-839-00	CARBON 2.2K 5% 1/6W
R634	1-249-433-11	CARBON 22K 5% 1/6W
R637	1-249-420-11	CARBON 1.8K 5% 1/6W
R638	1-247-838-00	CARBON 2K 5% 1/6W
R639	1-247-854-00	CARBON 9.1K 5% 1/6W
R640	1-247-815-00	CARBON 220 5% 1/6W
R641	1-249-423-11	CARBON 3.3K 5% 1/6W
R642	1-249-429-11	CARBON 10K 5% 1/6W
R644	1-249-433-11	CARBON 22K 5% 1/6W
R645	1-249-425-11	CARBON 4.7K 5% 1/6W
R646	1-249-429-11	CARBON 10K 5% 1/6W
R647	1-247-839-00	CARBON 2.2K 5% 1/6W
R648	1-249-417-11	CARBON 1K 5% 1/6W
R649	1-249-429-11	CARBON 10K 5% 1/6W
R650	1-249-433-11	CARBON 22K 5% 1/6W
R651	1-249-417-11	CARBON 1K 5% 1/6W
R652	1-247-849-11	(G-AEP)...CARBON 330 5% 1/6W
R701	1-247-839-00	CARBON 2.2K 5% 1/6W
R702	1-247-826-00	CARBON 620 5% 1/6W
R703	1-247-839-00	CARBON 2.2K 5% 1/6W
R704	1-247-857-00	CARBON 12K 5% 1/6W
R705	1-247-869-00	CARBON 39K 5% 1/6W
R706	1-217-383-00	FUSIBLE 4.7 5% 1/4W F
R707	1-249-429-11	CARBON 10K 5% 1/6W

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R708	1-247-870-00	CARBON	43K	5%	1/6W
R709	1-247-220-00	CARBON	150	5%	1/2W
R710	1-247-104-00	CARBON	75	5%	1/4W
R711	1-247-882-00	CARBON	130K	5%	1/6W
R712	1-249-425-11	CARBON	4.7K	5%	1/6W
R713	1-249-433-11	CARBON	22K	5%	1/6W
R714	1-249-425-11	CARBON	4.7K	5%	1/6W
R715	1-249-433-11	CARBON	22K	5%	1/6W
R716	1-249-433-11	CARBON	22K	5%	1/6W
R717	1-249-433-11	CARBON	22K	5%	1/6W
R718	1-249-433-11	CARBON	22K	5%	1/6W
R719	1-249-433-11	CARBON	22K	5%	1/6W
R720	1-249-433-11	CARBON	22K	5%	1/6W
R721	1-249-441-11	CARBON	100K	5%	1/6W
R722	1-249-441-11	CARBON	100K	5%	1/6W
R723	1-249-441-11	CARBON	100K	5%	1/6W
R724	1-249-441-11	CARBON	100K	5%	1/6W
R725	1-249-441-11	CARBON	100K	5%	1/6W
R726	1-249-441-11	CARBON	100K	5%	1/6W
R727	1-249-441-11	CARBON	100K	5%	1/6W
R728	1-249-441-11	CARBON	100K	5%	1/6W
R729	1-249-441-11	CARBON	100K	5%	1/6W
R734	1-249-441-11	CARBON	100K	5%	1/6W
R735	1-249-441-11	CARBON	100K	5%	1/6W
R736	1-249-441-11	CARBON	100K	5%	1/6W
R737	1-249-441-11	CARBON	100K	5%	1/6W
R738	1-249-441-11	CARBON	100K	5%	1/6W
R739	1-249-441-11	CARBON	100K	5%	1/6W
R740	1-249-441-11	CARBON	100K	5%	1/6W
R742	1-249-433-11	CARBON	22K	5%	1/6W
R743	1-249-433-11	CARBON	22K	5%	1/6W
R744	1-249-433-11	CARBON	22K	5%	1/6W
R745	1-249-433-11	CARBON	22K	5%	1/6W
R746	1-249-433-11	CARBON	22K	5%	1/6W
R747	1-249-429-11	CARBON	10K	5%	1/6W
R748	1-249-417-11	CARBON	1K	5%	1/6W
R749	1-249-433-11	CARBON	22K	5%	1/6W
R750	1-249-417-11	CARBON	1K	5%	1/6W
R751	1-247-857-00	CARBON	12K	5%	1/6W
R752	1-249-425-11	CARBON	4.7K	5%	1/6W
R753	1-249-433-11	CARBON	22K	5%	1/6W
R754	1-249-417-11	CARBON	1K	5%	1/6W
R901	1-249-433-11	CARBON	22K	5%	1/6W
R902	1-249-417-11	CARBON	1K	5%	1/6W
R903	1-247-819-00	CARBON	330	5%	1/6W
R904	1-247-869-00	CARBON	39K	5%	1/6W
R905	1-212-857-61	FUSIBLE	10	5%	1/4W F
R906	1-247-192-00	CARBON	10	5%	1/2W
R907	1-247-883-00	CARBON	150K	5%	1/6W
R908	1-247-198-00	CARBON	18	5%	1/2W F
R909	1-249-433-11	CARBON	22K	5%	1/6W
R910	1-249-433-11	CARBON	22K	5%	1/6W
R931	1-247-083-81	(G-AEP)...CARBON	10	5%	1/4W F
R932	1-247-083-81	(G-AEP)...CARBON	10	5%	1/4W F
R955	1-212-857-61	FUSIBLE	10	5%	1/4W F
R958	1-249-441-11	CARBON	100K	5%	1/6W
R959	1-249-441-11	CARBON	100K	5%	1/6W
R960	1-247-859-00	CARBON	15K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R961	1-247-859-00	CARBON	15K	5%	1/6W
R962	1-249-433-11	CARBON	22K	5%	1/6W
R963	1-249-433-11	CARBON	22K	5%	1/6W
RV101	1-224-253-XX	RES, ADJ, METAL GLAZE 22K (OFFSET)			
RV102	1-224-250-XX	RES, ADJ, METAL GLAZE 2.2K (THD)			
RV103	1-224-252-XX	RES, ADJ, METAL GLAZE 10K (OFFSET)			
RV201	1-224-253-XX	RES, ADJ, METAL GLAZE 22K (OFFSET)			
RV202	1-224-250-XX	RES, ADJ, METAL GLAZE 2.2K (THD)			
RV203	1-224-252-XX	RES, ADJ, METAL GLAZE 10K (OFFSET)			
RV401	1-237-212-11	RES, VAR, CARBON 50KX2/10KX3 (MASTER VOLUME)			
RV402	1-237-214-11	RES, VAR, CARBON 10K/10K (INPUT LEVEL)			
RV403	1-237-213-11	RES, VAR, CARBON 20K/20K (INPUT BALANCE)			
RV404	1-237-214-11	RES, VAR, CARBON 10K/10K (SURROUND LEVEL)			
RV701	1-224-254-XX	RES, ADJ, METAL GLAZE 47K			
RY251	1-515-529-11	RELAY			
RY601	1-515-529-11	RELAY			
RY602	1-515-529-11	RELAY			
RY901	1-515-503-00	RELAY			
RY902	1-515-503-00	RELAY			
S401	1-570-635-11	SWITCH, PUSH (6 KEY)(SURROUND)			
S402	1-553-164-00	SWITCH, SLIDE (SURROUND OUT POLARITY)			
S403	1-553-164-00	SWITCH, SLIDE (LEVEL)			
S701	1-554-592-00	SWITCH, KEY BOARD (DELAY TIME +)			
S702	1-554-592-00	SWITCH, KEY BOARD (DELAY TIME -)			
S703	1-554-592-00	SWITCH, KEY BOARD (DELAY TIME +)			
S704	1-554-592-00	SWITCH, KEY BOARD (DELAY TIME -)			
S705	1-554-303-21	SWITCH, KEY BOARD (TIME MEMORY SET)			
S706	1-554-303-21	SWITCH, KEY BOARD (TIME MEMORY 1)			
S707	1-554-303-21	SWITCH, KEY BOARD (TIME MEMORY 2)			
S708	1-554-303-21	SWITCH, KEY BOARD (TIME MEMORY 3)			
S709	1-570-636-11	SWITCH, PUSH (1 KEY)(TEST TONE)			
S901	1-570-634-11	SWITCH, ROTARY (SPEAKERS)			
S902	1-553-318-00	SWITCH, PUSH (AC POWER)(1 KEY)			
SP901	1-536-706-00	TERMINAL BOARD (SP)			
T901	1-448-627-11	(US,Canadian)...TRANSFORMER, POWER			
T901	1-448-628-11	(AEP,G-AEP,UK)...TRANSFORMER, POWER			
T901	1-448-629-11	(E)...TRANSFORMER, POWER			
TB251	*1-508-809-00	BASE POST (14MM) 2P			
TB252	*1-508-809-00	BASE POST (14MM) 2P			
TB253	*1-508-809-00	BASE POST (14MM) 2P			
TB254	*1-508-809-00	BASE POST (14MM) 2P			
TB701	*1-535-116-00	TERMINAL			
TB702	*1-535-117-00	TERMINAL			
TB901	*1-535-139-00	(US,Canadian,E)...BASE POST 19MM (10MM PITCH) 2P			
TB901	1-535-140-11	(AEP,G-AEP,UK)...BASE POST 19MM (10MM PITCH) 3P			
TB902	1-535-139-11	(E)...BASE POST 19MM (10MM PITCH) 2P			
TB903	*1-535-116-00	TERMINAL			
TB904	*1-535-116-00	TERMINAL			
TB991	*1-535-139-00	(US,Canadian,AEP,G-AEP,UK) ...BASE POST 19MM (10MM PITCH) 2P			
YS901	1-526-576-31	(E)...VOLTAGE SELECTOR			
X301	1-567-667-11	VIBRATOR, CRYSTAL 71.9712MHz			
X302	1-527-948-00	VIBRATOR, CRYSTAL 35.002MHz			
X701	1-567-160-00	OSCILLATOR, CERAMIC 4.19MHz			

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-551-734-11	(US,Canadian,UK)...CORD, CONNECTION (RK-74A)
1-558-543-31	(AEP,G-AEP)...CORD, CONNECTION
1-558-787-11	(AEP,G-AEP)...CORD, CONNECTION
3-701-630-00	BAG, POLYETHYLENE
3-703-845-01	(US,Canadian,UK)...LABEL (N)(U/C), MAIN CAUTION
3-765-167-11	MANUAL, INSTRUCTION
4-858-078-00	SHEET, PROTECTION
4-908-060-11	INDIVIDUAL CARTON
4-915-426-01	CUSHION
4-915-702-01	LABEL, CAUTION, DOLBY SURROUND

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Sony Corporation